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CITY OF NOTTINGHAM.

Cancer 1908-9

SUMMARY

OF

ANNUAL HEALTH REPORTS

FOR THE PERIOD

1916 to 1928 (inclusive).

BY

PHILIP BOOBBYER, M.D.,

MEDICAL OFFICER OF HEALTH FOR THE CITY OF NOTTINGHAM
UNTIL THE END OF THIS PERIOD, AND AFTERWARDS
CONSULTING MEDICAL OFFICER OF HEALTH.

Nottingham:

DERRY AND SONS, LIMITED, PRINTERS.

WITH DR. BOOBBYER'S COMPLIMENTS.

Dr. Boobbyer regrets that he has been called upon to sacrifice much letter-press — especially that explanatory of tables — in this Report, to the necessity of keeping the cost of its printing below a certain figure.

Guildhall,
Nottingham,
August, 1929.

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HEALTH COMMITTEE MEMBERS, 1916-1928.

1927-1928.

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Chairman :—COUNCILLOR E. H. LEE.

Vice-Chairman :—COUNCILLOR (MRS.) CAROLINE M. HARPER, J.P.

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Councillor Wm. Crane.
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,, G. E. Thundercliffe.
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Chairman.
Vice-Chairman.
Alderman T. Ward.
Councillor R. Bury.
,, E. Purser.
,, C. Willmer.

Prior to this year, in the above period, the following gentlemen had been members of the Health Committee, those whose names are marked with a * in the current committee list above, and the list below, having been chairmen of the Committee for the years, or parts of years, given against their names :

Alderman S. Cook, J.P.* (1915-16).
Councillor R. Cripps.
,, A. Cullen.
,, Henry Ford.
,, C. E. R. Fraser, J.P.
,, A. Fulton, J.P., M.B.* (part of 1920).
,, A. B. Gibson.
,, E. H. Goddard.
,, J. B. Griffin.
,, G. V. Hutton, J.P.* (1920-26).
,, F. H. Jacob, M.D., F.R.C.P.
Councillor E. Kidd, J.P.
,, J. Littlefair.
,, H. Offiler, J.P.
,, J. G. Small, J.P.* (1912-15).
,, H. Spray* (1916-20).
,, W. B. Starr, J.P.
,, R. H. Swain, J.P.
,, J. Tomlinson.
,, A. R. Tweedie, F.R.C.S.
,, B. S. Wright, J.P.
,, W. A. Young.

INTRODUCTION.

To the Health Committee of the Nottingham Corporation.

Ladies and Gentlemen,

In 1916, about 20 months after the commencement of the War, the City Council of Nottingham decided to discontinue the printing of the Annual Health Report in extenso, on account of the heavy cost entailed; and I was instructed, instead, to prepare in manuscript, and to file, the statistical records from which, under ordinary conditions, the report is annually compiled. An order endorsing this instruction was subsequently issued by the Local Government Board, and, in recent years, this course has been followed, excepting that on special occasions (as, for example, when a Parliamentary Bill was being promoted) a report has been prepared and printed for production at the Committee or Committees of Parliament by whom the Bill was considered. The Ministry of Health, however, some little time back, called for a Survey Report to cover the period for which regular printed annual records were lacking, and the report which follows is now produced in response to this demand. The delay in its production has been due to several causes acting together; the principal of which are, that my official duties have been exceptionally heavy of late, owing to the lack of a qualified assistant, and that a defect has developed in one of my eyes which renders night-work both unadvisable and difficult. But, as already mentioned above, the necessary materials for this Survey Report in the shape of statistics and other information, have been existent and in order from the outset.

The period embraced by this Summary extends from 1916 to 1928, inclusive, and covers, therefore, the most difficult part of the war-period, and the scarcely less difficult period which has followed the war.

In this Summary I shall furnish in tabular form, with short explanatory notes, the principal statistical records accumulated every year, of matters usually dealt with in reports of this nature, and generally upon the lines indicated in the Health Ministry's circulars on the subject; but I shall give in the form of narrative an account of certain specially important or interesting branches of work, or of undertakings for the improvement of the public health, or the promotion of social welfare, which have been carried out or commenced, or have undergone exceptional development, during the period under review.

Most prominent among these are the following:

(1) The Maternity and Child Welfare Scheme.

(2) The scheme for the gratuitous treatment of tuberculosis.

(3) The scheme for the gratuitous treatment of venereal disease.

(4) Housing Reform.

(5) The conversion of pail-closets to W.Cs.

Our Maternity and Child Welfare scheme has passed from a purely voluntary, to an entirely official status during this period, and has undergone remarkable development. It is difficult to over-rate the benefit to poor mothers and their offspring accruing from this section of our work; the infant mortality has fallen by 50% during the period of its existence.

The anti-tuberculosis work of the Health Department, which began with the provision of sanatorium beds at the City Isolation Hospital in 1903, and culminated in the establishment of a Tuberculosis Dispensary and the appointment of a Tuberculosis Officer in 1913, has substantially assisted in bringing about the remarkable reduction in the mortality from tuberculous diseases which has taken place during the past thirty years.

The Treatment Centre for Venereal Diseases, established in 1917, under the Order of the Local Government Board of 1916, which was based upon the findings of the Royal Commission of 1913-1916, has dealt with upwards of 15,000 patients down to the end of 1928 ; but, while it has apparently reduced the prevalence of syphilis by more than 52%, it has unfortunately not been equally successful with gonorrhœa, owing largely to the growing laxity of public morals coupled with the lack of a specific remedy for this disease.

The Corporation have built or ordered the building of more than 7,000 houses since the close of the War (1918), and cleared, or adopted schemes for the clearance of some 28.19 acres of slums—including the almost historic Narrow Marsh district. The latest scheme, embracing no less than six separate areas with an aggregate extent of 23.09 acres was formulated by me in November, 1928.

From 1868 till 1912 Nottingham was a " pail-closet town." In April of the latter year, however, the City Council decided to convert the, then existent, 40,000 closets of this pattern to w.c.'s, and the work of conversion was commenced at once, although not completed until 1923. This is probably the most important of the

sanitary reforms undertaken by the Corporation in recent years. It was instrumental in causing the practical disappearance of enteric fever from the City, and a striking reduction in epidemic diarrhœa, without mentioning other diseases and death causes fostered—directly and indirectly—by fæcal organisms.

Although not strictly belonging to the Health Department, I feel constrained to mention the new Sewerage Scheme of the City Engineer, which, when completed, will probably render Nottingham one of the best drained cities in the Country. This scheme will not only ensure the rapid and complete removal of sewage and surface water from the City and several surrounding districts dependent for this and other service upon the City, but its rapid delivery at Stoke Farm; a sewage farm which is almost ideal in its situation, soil, and subsoil, and which will lend itself admirably also in the ultimate future to the development of schemes for the bacterial treatment of sewage when these shall become necessary.

May I be allowed to inscribe here, by way of epilogue, a note of acknowledgement and farewell in furnishing this, the last report which I shall be called upon to make to the Corporation of Nottingham?

In bidding farewell, I wish to express my deep gratitude for the generous and thoughtful kindness shown to me by the Local Authority and its members on many occasions during my long period (40 years) of service; and especially for the appreciation of my public work manifested in many most flattering and gratifying ways at the time of my leaving. I wish also to thank my

friends and colleagues of other departments than my own, for their extremely kind and friendly treatment of me, whenever I have had the pleasure of meeting them, officially or unofficially ; treatment which has contributed very materially to the contentment of a busy life spent in the service of the public. And, finally, I wish to put on record, with deepest emphasis, the obligation I am under to my late colleagues and coadjutors of both sexes in the Health Department ; many of whom are people of exceptionally high character, capacity and knowledge, whose whole-hearted and entirely efficient performance of their duties has been largely instrumental in securing that very considerable measure of success which, in some sections of our work at least, is held to have crowned our efforts.

I am,

Your obedient servant,

PHILIP BOOBBYER.

HEALTH DEPARTMENT STAFF, 1928.

Medical Officer of Health—Philip Boobbyer, M.D., M.S., &c.

Assistant Medical Officer of Health and Chief Sanitary Inspector—
E. Bertram Smith, M.B., B.S., D.P.H.

Tuberculosis Officer and Resident Medical Officer, City Isolation Hospital and Sanatorium—
John Russell Edward, M.D., Ch.B.*

Assistant Medical Officers for Maternity and Child Welfare—
J. Jean M. Morton, M.B., B.S., D.P.H.*†
Bernard R. B. Truman, B.A., M.B., Ch.B.*†
J. Wilkie Scott, M.C., M.D., Ch.B., M.R.C.P.*†
Percy Hardy, B.A., M.B., Ch.B.*†
Ethel Landon, M.B., Ch.B.*†

Assistant Medical Officers for Venereal Disease—
Jas. C. Buckley, M.D., Ch.B.*†
Ethel M. D. N. Baker, M.D.*†
Aubrey D. V. Taylor, M.R.C.S., L.R.C.P.*†
Frederick Crooks, M.B., Ch.M., F.R.C.S.(Ed.)*†
Dorothea J. Mann, B.A., M.D.*†
Hy. Wm. Spaight, L.R.C.P.I. & L.M.*†

Assistant Medical Officers, Ultra-violet Ray Clinic—
R. A. Clayton Rigby, L.R.C.P., L.R.C.S.†
Hy. Norman Jaffé, M.B., B.S.†

City Bacteriologist—Elliott John Storer, M.R.C.S., L.R.C.P.*

City Analyst—Samuel Russell Trotman, M.A., F.I.C.†

Veterinary Surgeon—Lindsay Auchterlonie, M.R.C.V.S.†

Clerks (Central Office)—

H. Read (*a*) (Chief Clerk)
C. Cooper.
B. Blayney (*a*)
G. Astill.
J. H. Oldham (*a*)
(Miss) W. M. Hickling
F. H. Lyman.

District Sanitary Inspectors—

P. K. Bird (*a*)
S. C. Kittridge (*a*)
W. Milns (*a*) (*b*)
G. Old.
G. A. Pratt (*a*)
W. Richardson (*a*)

Meat and other Food Inspectors—

J. N. Hughes (*a*) (*b*)
F. Richardson (*a*) (Assistant).
J. A. Sutton (*a*) (*b*)

Food and Drugs and Dairies and Cowsheds Inspectors—

H. Leavers (*a*) P. W. Watson (*a*)

Infectious Diseases Inspectors—

G. A. Read (*a*) W. A. Mees.

Workshops Inspector—W. M. Hughes (*a*)

Shops Act Inspector—Miss A. G. Blayney (*a*).

Health Visitors—

Miss W. M. Hudston (Superintendent) (*a*) (*i*) *
Miss G. A. Arthur (*f*) (*h*) *
Miss C. Black (*f*) (*i*) *
Miss M. A. Black (*i*) *
Miss N. Elvidge (*f*) (*g*) *
Miss M. Fenwick (*f*) (*g*) (*h*) *
Miss E. M. Fox (*c*) (*f*) (*g*) (*h*) (*k*) * (resigned 14/5/28).
Miss W. E. Haynes (*f*) (*g*) (*h*) *
Miss C. Lawrence (*e*) * †
Mrs. M. E. B. Morris (*f*) (*g*) (*h*) *
Miss M. Palmer (*a*) (*f*) (*i*) *
Miss E. Ross Sergeant (*d*) (*e*) *

Miss E. G. Adams, A.R.R.C. (Superintendent), (*f*) (*g*) (*h*) (*k*) *
Miss M. L. Campbell (*g*) (*h*) (*j*) *
Miss E. M. Cooper, A.R.R.C. (*c*) (*f*) (*g*) *
Miss S. M. Howard (*f*) (*g*) (*h*) *
Miss E. M. Langsdale (*a*) (*d*) (*f*) (*g*) (*h*) * (resigned 21/3/28).
Miss W. R. Turner (*g*) (*j*) * (Temporary from 1/10/28).

Clerks and Collectors of Medical Fees—

Miss M. L. Oswald* Miss M. A. Lowndes.*†
Miss M. Oswald *†

Tuberculosis Visitors —

Miss E. Jackson (Superintendent) (*f*) (*g*) (*h*) *
Mrs. M. E. B. Bell (*g*) (*h*) *
Miss S. H. England (*g*) (*h*) (*i*) *†

Clerk.—Miss G. M. Trollope.*

V.D. Nurses.—

Miss R. M. Mitchell (Superintendent and Matron) (*g*) (*h*) *
Miss R. Bewlay (*f*) (*g*) *†
Miss E. M. Dowse (*f*) (*g*) (*h*) *
Miss A. M. Rawson (*f*) (*g*) (*h*) (resigned 28/7/28).*
Miss J. Reed (*f*) (*g*) *
Miss E. E. Wagstaffe (*g*) *

Orderlies.—

R. Gamble.*† R. Pells.*†
W. J. Jones.* W. Pells.*†
W. Milns.*†

Clerks.—

H. Clarke (*a*) * F. R. Hughes (*a*) *

Hostels for Unmarried Mothers (2).*—

Miss H. M. Wells (Matron). Assistant Matrons. (2).
Cooks, 2 ; Nurse, 1 ; Nursemaid, 1 ; Housemaid, 1 ; Total 8.

Ultra-Violet Ray Clinic.—

Miss E. M. Heald (Secretary).
Miss Todd (Nurse). Mrs. Morris (Nurse).

*City Isolation Hospital and Sanatorium.**—

Matron, 1 (Miss A. Wragg, A.R.R.C.) ; Assistant Matron, 1 ; Nurses, 31 ; Female servants, 25 ; Male servants—including engineers, gardeners, ambulance drivers, porters, etc., 9 ; Total, 67.

*Children's Sanatorium, Bulwell Hall.**—

Matron, 1 (Miss J. Hay) ; Sister, 1 ; Teachers, 2 ; Nurses, 3 ; Cook, 1 ; Maids, 7 ; Gardeners, 2 ; (1 part-time).—Total, 17.

*V.D. Hospital.**—

Matron, 1 (Miss R. M. Mitchell), who also acts as Superintendent Nurse at V.D. Clinic ; Nurse, 1 ; Cook, 1 ; Housemaid, 1 ; Male servant, 1.—Total 5.

*Pathological Laboratory.**—

Assistants, 4 ; Clerk (*f*), 1 ; Cleaner and porter, 1.—Total 6.

Disinfecting Staff.—2.

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* Officers " to whose salary contribution is made under Public Health Acts or by Exchequer Grants."
† Part-time Officers.
(*a*) Holds Certificate of Royal Sanitary Institute as Sanitary Inspector.
(*b*) ,, ,, ,, ,, as Inspector of Meat and Other Foods.
(*c*) ,, ,, ,, ,, as Health Visitor.
(*d*) Holds Certificate of Sanitary Inspectors' Examination Board (London)
(*e*) Holds Health Visitors' Diploma.
(*f*) Holds Certificate of Central Midwives' Board.
(*g*) ,, ,, 3 or 4 years' training in General Hospital.
(*h*) ,, ,, State registration for nurses.
(*i*) Has had Fever training.
(*j*) Has had special training in ophthalmic work.
(*k*) Holds New Health Visitors' Certificate, Royal Sanitary Institute.

The City of Nottingham.

SITE and POPULATION DATA, RATEABLE VALUE, and PRINCIPAL VITAL STATISTICS, 1928.

Situation and Soil.—Nottingham lies in lat. 52 deg. 57 min. north, and long. 1 deg. 9 min. west, in the S.W. portion of the County of Notts., and in the watershed of the Trent. It stretches about 7½ miles north from the Trent, and has an average breadth of about three and a half miles. It stands for the most part on Bunter sandstone; but on the east are the Keuper marls; on the north and west, red marl and magnesian limestone of the Permian series—all with a general dip N.E. by E.; and on the south towards the Trent, and in the valley of the Leen and other small streams, are the alluvium and gravels of the Trent and its local tributaries.

Area and Altitude.—The City has an area of 10,935 acres, and its altitude varies from about 80 feet (at Trent Bridge) to 425 feet (on Woodborough Road, Mapperley) above ordnance datum (mean water level at Liverpool).

Population.—At census of 1881, 186,575; at census of 1891, 213,877; at census of 1901, 239,753; at census of 1911, 259,904; at census of 1921, 262,624 (266,400 as revised by R.G.)

Population (estimated) at mid-year, 1928, 266,600.

Average number of persons to a house :—At census of 1881, 4·8 ; at census of 1891, 4·6 ; at census of 1901, 4·5 ; at census of 1911, 4·3 ; at census of 1921, 4·2.

Number of families or separate occupiers at census of 1921, 63,621.

Number of inhabited houses at census of 1921, 61,876.

Number of inhabited houses, December, 1928, 68,724.

Average number of persons to an acre, 24·38.

Social conditions, chief occupations of inhabitants, and influence on public health.—Seventy-eight per cent. of the total population are resident in houses of five rooms and less, and large numbers are engaged as manual workers in the lace, hosiery, coal and iron, blouse-making and tailoring, trades, and in various sections of the warehouse and transport departments of these trades. No liability to special sickness is associated with any of the staple local trades. The death-rate of (Midland) coal-miners, for example, from tuberculosis, we know, is considerably less than that of the general community.

Rateable Value.—£1,686,903. A penny rate is estimated to produce £6,620.

	1928-1929.
Rates in the £ :	s. d.
Poor Rate	3 8
General District Rate	11 0

Principal Vital Statistics.

Marriages	2,365
Marriage-rate	17·7
Births	4,711
Birth-rate	17·67
Deaths (corrected for transferable deaths) ..	3,406
Death-rate	12·78
Deaths under one year	403
Infant Mortality (per 1,000 births) ..	85
Infectious Disease death-rate	0·60
Diarrhœa death-rate	0·33
Respiratory diseases death-rate	2·67
Cancer death-rate	1·44
Tuberculosis death-rate	1·10
Phthisis death-rate	0·95

	England and Wales.	107 Great Towns (Population exceeding 50,000).	London.
Marriage-rate ..	15·3	—	—
Birth-rate ..	16·7	16·9	15·9
Death-rate ..	11·7	11·6	11·6
Infant Mortality (per 1,000 births). ..	65	70	67

(The rates given above, unless otherwise stated, are per 1,000 of population).

TABLE 1.

Nottingham. Population, Tenanted Houses, Marriages, Births and Deaths, for the years 1916-28.

	Estimated Population	Tenanted Houses and tene-ments	Marriages	Births	Deaths			Deaths in Public Institu-tions
					Total at all ages	Under One Year	Under 5 Years	
1928	266,600	68,724	2,365	4,711	3,406	403	535	1,253
1927	265,700	67,476	2,338	4,635	3,744	388	586	1,302
1926	268,000	66,201	2,076	4,932	3,503	494	688	1,207
1925	270,600	65,614	2,305	5,191	3,725	499	775	1,244
1924	270,300	65,056	2,348	5,218	3,528	442	666	1,111
1923	269,300	64,706	2,255	5,372	3,285	464	648	1,035
1922	267,900	64,680	2,369	5,612	3,302	465	717	1,009
1921	266,400	63,635	2,508	6,140	3,491	628	833	1,015
1920	267,836	63,300	3,138	6,896	3,486	663	942	1,089
1919	257,573	63,335	3,098	4,922	3,750	521	769	1,038
1918	235,707	63,462	2,296	4,200	5,029	517	758	1,134
1917	236,853	63,691	2,107	4,199	3,653	533	876	926
1916	235,613	64,030	2,197	5,109	3,780	592	911	918

TABLE 1a.

Nottingham. Vital Statistics of Whole District during 1928, and previous years, in form required by the Ministry of Health.

Year	Population estimated to Middle of year §	Births			Total Deaths Registered in the District		Transferable Deaths		Net Deaths belonging to the District			
		Uncorrected number	Net						Under 1 year of age		At all Ages	
			Number	Rate	Number	Rate	Of Non-resid'ts registered in the District	Of Residents not registered in the District	Number	Rate per 1000 Net Births	Number	Rate
1928	266,600	4,795	4,711	17·67	3,900	14·63	571	77	403	85	3,406	12·78
1927	265,700	4,648	4,635	17·44	4,160	15·66	482	66	388	84	3,744	14·09
1926	268,000	4,920	4,932	18·40	3,954	14·75	529	78	494	100	3,503	13·07
1925	270,600	5,164	5,191	19·18	4,092	15·12	454	87	499	96	3,725	13·76
1924	270,300	5,318	5,218	19·305	3,891	14·39	428	65	442	85	3,528	13·052
1923	269,300	5,401	5,372	19·95	3,598	13·36	384	71	464	86	3,285	12·198
1922	267,900	5,654	5,612	20·95	3,602	13·45	377	77	465	83	3,302	12·325
1921	266,400	6,142	6,140	23·04	3,750	14·08	314	55	628	102	3,491	13·104
‡	267,966											
1920*	267,836	6,919	6,896	25·73	3,786	14·13	345	45	663	96	3,486	13·015
‡	268,314											
1919*	257,573	4,962	4,922	18·34	4,159	16·15	458	49	521	106	3,750	14·559
‡	264,101											
1918*	235,707	4,225	4,200	15·90	5,499	23·33	550	80	517	123	5,029	21·336
‡	264,024											
1917*	236,853	4,207	4,199	15·90	3,942	16·64	336	47	533	127	3,653	15·423
‡	256,351											
1916*	235,613	5,119	5,109	19·93	4,158	17·65	425	47	592	116	3,780	16·084
1915	266,918	5,525	5,512	20·65	4,269	15·99	280	52	717	130	4,041	15·139
1914	266,918	6,197	6,198	23·220	4,334	16·237	292	57	902	146	4,099	15·360
1913	264,735	6,110	6,102	22·614	4,066	15·069	264	61	798	131	3,863	14·316
1912	262,563	6,203	6,187	23·564	4,019	15·306	241	45	730	118	3,823	14·560
1911	260,447	6,367	6,338	24·335	4,435	17·028	261	32	1,032	163	4,206	16·149

Area of District in acres (exclusive of area covered by water), 10,935. The only considerable water areas in the city are those of the River Trent (about a mile), of the River Leen, and of the Canal.

Total population at all ages .. 262,624 as enumerated.
266,400 as revised by Registrar-General } At Census of 1921

Total families or separate occupiers 63,621 .. .. .. } At Census of 1921

Average number of persons per house 4·2 .. .. .. } At Census of 1921

† Population estimated at same figure as in 1914, owing to War depletion.

‡ Population for calculation of Birth-rate } Registrar-General.

* ,, ,, ,, Death-rate } Registrar-General.

§ Figure supplied by Registrar-General.

Nottingham.

Summary of deaths at all ages from various causes, 1916 to 1928. (R. G's International Short List).

	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Total Deaths ..	3,780	3,653	5,029	3,750	3,486	3,491	3,302	3,285	3,528	3,725	3,503	3,744	3,406
Deaths under 1 year	592	533	517	521	663	628	465	464	442	499	494	388	403
,, 1—5 years ..	319	343	564	248	279	205	252	184	224	276	194	198	132
,, 5—45 ..	734	695	1,519	795	730	653	599	541	592	653	609	647	579
,, 45—65 ..	873	895	1,156	899	780	804	865	851	896	857	881	959	894
,, 65—85 ..	1,149	1,085	1,176	1,150	939	1,094	1,031	1,135	1,255	1,282	1,221	1,417	1,274
,, over 85 ..	113	102	97	139	95	107	90	110	119	158	104	135	124
Causes of Death :—													
Enteric Fever ..	8	2	5	2	2	3	4	3	–	4	2	–	1
Small-Pox ..	–	–	–	–	–	–	–	–	–	–	–	–	–
Measles	60	105	31	11	99	–	93	27	4	96	11	20	6
Scarlet Fever ..	5	6	3	9	9	1	6	11	4	13	4	5	7
Whooping Cough ..	22	66	67	25	25	42	26	34	38	31	66	9	16
Diphtheria ..	16	18	48	66	93	26	10	12	10	24	70	61	43
Influenza	33	27	1,118	232	28	75	32	24	135	65	35	187	21
Enceph. Lethargica ..	–	–	–	–	5	3	1	1	10	8	9	7	2
Meningococcal Meningitis ..	4	5	6	6	11	3	1	2	1	–	2	7	5
Tuberculosis of respiratory system ..	312	327	313	320	228	233	267	246	262	277	228	252	253
Other tuberculous dis.	107	88	122	84	73	71	69	71	55	47	60	52	39
Cancer, malignant dis.	256	302	356	322	352	384	326	395	381	333	367	394	385
Rheumatic fever ..	5	3	7	1	13	9	5	8	7	16	14	7	4
Diabetes	34	36	22	34	40	32	28	29	30	40	33	38	46
Cerebral hæmorrhage	173	198	178	163	202	147	185	212	230	235	209	217	174
Heart disease ..	365	257	351	334	352	386	353	380	356	471	481	426	411
Arterio-sclerosis ..	80	51	73	74	41	80	103	91	84	82	78	70	162
Bronchitis	378	405	372	411	287	360	326	333	416	391	349	477	338
Pneumonia (all forms)	355	338	593	358	340	366	306	299	410	444	352	413	329
Other respiratory dis.	31	27	16	21	20	21	28	27	33	33	36	57	63
Ulcer of stomach or duodenum ..	23	20	22	21	16	12	12	14	21	24	30	34	30
Diarrhœa, etc. (under 2 years) ..	131	61	70	70	78	106	49	67	54	49	77	76	79
Appendicitis ..	13	8	10	17	15	17	11	12	19	12	8	12	18
Cirrhosis of liver ..	24	14	12	10	10	9	9	7	9	14	9	11	10
Acute and chronic nephritis ..	97	90	85	62	76	78	74	72	78	72	86	73	99
Puerperal sepsis ..	5	3	7	8	14	6	6	6	4	4	4	2	8
Other accidents and diseases of pregnancy & parturition	12	11	22	17	25	13	13	14	12	17	11	14	18
Congenital debility & malformation, premature bth.	182	158	158	207	225	222	182	171	163	183	180	139	141
Suicide	19	22	11	23	26	24	30	35	24	25	42	45	51
Other deaths from violence ..	111	100	135	98	77	89	78	73	85	97	103	105	101
Other defined causes ..	919	905	816	744	703	673	669	609	592	616	547	534	545
Causes ill-defined or unknown ..	–	–	–	–	1	–	–	–	1	2	–	–	1

Birth-rate, General Death-rate, and Death-rates from the Principal Epidemic and from Tuberculous Diseases, per 1,000 of Population, and Infantile Death-rate per 1,000 Births.

NOTTINGHAM.

In Five Yearly Periods, 1856-1890, and in Single Subsequent Years.

	Birth-rate per 1,000 living.	Death-rate per 1,000 living.	Infantile Death-rate.	Death-rate per 1,000 living from								
				7 principal Epidemic Diseases	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	"Fever" principally Enteric.	Diarrhoea.	Phthisis and other T'berculous Diseases.
1856-1860	36·8	27·2	209	5·98	0·21	0·80	1·08	0·13	0·76	1·02	2·00	3·22
1861-1865	34·8	24·9	192	3·83	0·09	0·43	0·98	0·12	0·51	0·78	1·09	3·19
1866-1870	31·3	23·8	200	4·34	0·07	0·44	0·73	0·09	0·51	0·92	1·57	2·78
1871-1875	34·1	24·9	192	4·30	0·79	0·31	0·53	0·02	0·26	0·84	1·53	2·42
1876-1880	34·6	21·7	175	3·00	0·00	0·35	0·62	0·03	0·43	0·34	1·06	1·85
1881-1885	36·6	20·9	174	3·22	0·06	0·41	0·77	0·12	0·46	0·31	1·09	1·99
1886-1890	30·4	17·9	168	2·39	0·01	0·42	0·11	0·06	0·45	0·31	1·04	1·52
1891	29·8	19·5	169	2·49	0·00	0·51	0·13	0·09	0·56	0·32	0·84	1·69
1892	29·4	18·4	167	2·33	0·00	0·55	0·19	0·13	0·54	0·16	0·73	1·42
1893	30·2	18·4	172	2·62	0·02	0·11	0·37	0·07	0·27	0·31	1·47	1·81
1894	28·6	16·7	174	2·42	0·01	0·60	0·23	0·08	0·53	0·28	0·60	1·80
1895	29·7	18·5	189	2·64	..	0·00	0·23	0·04	0·14	0·24	1·97	2·10
1896	29·4	17·5	168	2·47	..	0·88	0·11	0·06	0·39	0·34	0·69	1·89
1897	28·9	18·4	202	2·81	..	0·21	0·15	0·09	0·49	0·21	1·66	1·88
1898	28·8	17·2	178	2·37	..	0·44	0·14	0·10	0·25	0·24	1·20	1·82
1899	28·9	20·0	210	3·33	..	0·58	0·23	0·13	0·23	0·48	1·68	1·67
1900	28·3	19·2	196	2·35	..	0·19	0·23	0·12	0·43	0·32	1·08	2·02
1901	28·4	18·5	193	2·86	..	0·41	0·05	0·12	0·42	0·35	1·51	1·80
1902	27·8	16·7	159	1·32	..	0·02	0·10	0·12	0·15	0·21	0·72	1·69
1903	28·3	16·5	165	2·05	0·01	0·39	0·14	0·26	0·39	0·14	0·68	1·68
1904	27·7	17·7	176	2·58	0·05	0·18	0·11	0·28	0·36	0·23	1·37	1·90
1905	26·5	16·5	155	2·27	0·00	0·92	0·07	0·19	0·24	0·09	0·76	1·63
1906	26·5	15·9	171	2·04	..	0·02	0·07	0·16	0·16	0·16	1·48	1·63
1907	26·7	17·5	168	2·23	..	0·79	0·02	0·16	0·51	0·15	0·61	1·77
1908	26·6	15·2	145	1·25	..	0·12	0·04	0·11	0·23	0·11	0·64	1·72
1909	25·7	16·3	150	1·67	..	0·54	0·04	0·10	0·22	0·08	0·69	1·67
1910	24·8	14·2	128	1·01	0·00	0·20	0·06	0·11	0·24	0·05	0·35	1·69
1911	24·5	16·1	162	2·36	..	0·37	0·03	0·12	0·15	0·11	1·58	1·70
1912	23·7	14·4	117	1·45	..	0·62	0·09	0·10	0·27	0·05	0·33	1·53
1913	22·6	14·3	131	1·28	..	0·07	0·06	0·15	0·15	0·03	0·83	1·43
1914	23·2	15·4	146	1·75	..	0·54	0·04	0·13	0·24	0·02	0·77	1·63
1915	20·6	15·1	130	1·21	..	0·20	0·06	0·05	0·26	0·02	0·62	1·56
1916	19·9	16·0	116	1·05	..	0·25	0·02	0·06	0·09	0·03	0·58	1·79
1917	15·9	15·4	127	1·14	..	0·44	0·02	0·07	0·28	0·00	0·30	1·76
1918	15·9	21·3	123	1·02	..	0·13	0·01	0·20	0·28	0·02	0·37	1·84
1919	18·3	14·5	106	0·75	..	0·04	0·03	0·26	0·10	0·00	0·31	1·57
1920	25·7	13·0	96	1·15	..	0·37	0·03	0·34	0·09	0·00	0·30	1·12
1921	23·0	13·1	102	0·69	..	0·00	0·00	0·10	0·16	0·01	0·42	1·14
1922	20·9	12·3	83	0·74	..	0·35	0·02	0·04	0·10	0·01	0·22	1·25
1923	19·9	12·1	86	0·60	..	0·10	0·04	0·04	0·13	0·01	0·27	1·14
1924	19·3	13·0	84	0·42	..	0·01	0·01	0·04	0·14	0·00	0·22	1·13
1925	19·1	13·8	96	0·82	..	0·35	0·05	0·09	0·11	0·01	0·19	1·19
1926	18·4	13·1	100	0·88	..	0·04	0·01	0·26	0·25	0·01	0·31	1·08
1927	17·4	14·1	84	0·66	..	0·08	0·02	0·23	0·03	0·00	0·30	1·14
1928	17·7	12·8	85	0·60	..	0·02	0·03	0·16	0·06	0·00	0·33	1·10

In studying the decline of mortality from enteric fever and diarrhœa in Nottingham City since the beginning of the present Century, the following facts should be borne in mind: viz. (1) that the substitution of steel for wooden pails took place in the first years of the Century, and (2) that the conversion of pail-closets to water-closets was begun in April, 1912, and practically completed in 1923.

The decline of enteric fever mortality has been general throughout the country during the same period, but it has not been so rapid as in the case of Nottingham, because the sanitary improvements elsewhere, have not, for the most part, been either so great or so rapid as here.

Birth-rate, General Death-rate, and Death-rates from the Principal Epidemic and from Tuberculous Diseases, per 1,000 of Population, and Infantile Death-rate per 1,000 Births.

ENGLAND AND WALES.

In Five Yearly Periods, 1858-1890, and in Single Subsequent Years.

	Birth-rate per 1,000 living.	Death-rate per 1,000 living.	Infantile Death-rate.	Death rate per 1,000 living from								
				7 principal Epidemic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	"Fever" principally Enteric	Diarrhœa.	Phthisis and other Tuberculous Diseases.
1858-1860	34·3	22·2	153	4·03	0·22	0·48	0·89	0·37	0·49	0·79	0·78	3·31
1861-1865	35·1	22·6	151	4·22	0·22	0·46	0·98	0·25	0·52	0·92	0·87	3·31
1866-1870	35·3	22·4	159	4·08	0·10	0·43	0·96	0·13	0·55	0·85	1·06	3·20
1871-1875	35·5	22·0	153	3·76	0·41	0·37	0·76	0·12	0·50	0·60	1·00	2·96
1876-1880	35·4	20·8	144	2·94	0·01	0·39	0·68	0·12	0·53	0·38	0·83	2·82
1881-1885	33·4	19·3	139	2·32	0·01	0·41	0·43	0·16	0·46	0·27	0·65	2·54
1886-1890	31·4	18·9	145	2·25	0·01	0·46	0·24	0·17	0·44	0·20	0·66	2·32
1891	31·4	20·2	149	2·70	0·00	0·43	0·17	0·17	0·46	0·16	0·46	2·30
1892	30·5	18·9	148	2·78	0·01	0·46	0·19	0·22	0·45	0·14	0·50	2·14
1893	30·8	19·2	159	3·16	0·05	0·37	0·23	0·31	0·34	0·23	0·95	2·14
1894	29·6	16·6	137	2·25	0·02	0·39	0·16	0·29	0·41	0·16	0·36	1·97
1895	30·3	18·7	161	2·14	0·00	0·38	0·15	0·26	0·32	0·18	0·87	2·06
1896	29·7	17·1	148	2·18	0·02	0·56	0·18	0·29	0·41	0·17	0·55	1·89
1897	29·7	17·4	156	2·15	0·00	0·40	0·14	0·24	0·35	0·16	0·86	1·93
1898	29·4	17·6	161	2·22	0·01	0·41	0·11	0·24	0·31	0·18	0·96	1·91
1899	29·3	18·3	163	2·21	0·01	0·31	0·12	0·29	0·30	0·20	0·98	1·90
1900	28·9	18·3	154	2·00	0·00	0·39	0·12	0·29	0·34	0·17	0·69	1·90
1901	28·5	16·9	151	2·05	0·01	0·27	0·13	0·27	0·30	0·16	0·91	1·81
1902	28·6	16·3	133	1·64	0·08	0·38	0·15	0·23	0·29	0·13	0·38	1·74
1903	28·4	15·4	132	1·46	0·02	0·27	0·12	0·18	0·27	0·10	0·50	1·75
1904	27·9	16·2	146	1·94	0·01	0·36	0·11	0·17	0·34	0·09	0·86	1·78
1905	27·2	15·2	128	1·52	0·00	0·32	0·11	0·16	0·25	0·09	0·59	1·64
1906	27·0	15·4	133	1·73	0·00	0·27	0·10	0·17	0·23	0·09	0·87	1·65
1907	26·3	15·0	118	1·26	0·00	0·36	0·09	0·16	0·29	0·07	0·29	1·62
1908	26·5	14·7	121	1·29	0·00	0·22	0·08	0·15	0·27	0·07	0·50	1·59
1909	25·6	14·5	109	1·12	0·00	0·35	0·09	0·14	0·20	0·06	0·28	1·56
1910	24·8	13·4	106	0·99	0·00	0·23	0·06	0·12	0·24	0·05	0·29	1·43
1911	24·4	14·6	130	1·88	0·00	0·36	0·05	0·13	0·21	0·07	1·06	1·46
1912	23·8	13·3	95	0·98	0·00	0·35	0·05	0·11	0·23	0·04	0·20	1·37
1913	23·9	13·7	109	1·20	0·00	0·28	0·06	0·12	0·14	0·04	0·56	1·34
1914	23·8	13·7	105	1·22	0·00	0·24	0·08	0·15	0·21	0·05	0·49	1·33
1915	21·8	14·8	110	1·29	0·00	0·43	0·06	0·15	0·21	0·04	0·40	1·54
1916	21·6	14·0	91	0·79	0·00	0·15	0·04	0·14	0·16	0·03	0·27	1·62
1917	17·8	14·4	97	0·85	0·00	0·30	0·02	0·13	0·13	0·03	0·24	1·80
1918	17·7	17·6	97	0·98	0·00	0·28	0·03	0·14	0·29	0·03	0·21	1·92
1919	18·5	13·8	89	0·52	0·00	0·10	0·03	0·13	0·07	0·01	0·18	1·26
1920	25·4	12·4	80	0·71	0·00	0·19	0·04	0·15	0·11	0·01	0·21	1·13
1921	22·4	12·1	83	0·70	0·00	0·06	0·03	0·12	0·12	0·02	0·35	1·13
1922	20·6	12·9	77	0·66	0·00	0·15	0·04	0·11	0·16	0·01	0·19	1·12
1923	19·7	11·6	69	0·55	0·00	0·13	0·02	0·07	0·10	0·01	0·22	1·06
1924	18·8	12·2	75	0·52	0·00	0·12	0·02	0·06	0·10	0·01	0·19	1·06
1925	18·3	12·2	75	0·61	0·00	0·13	0·03	0·07	0·15	0·01	0·21	1·04
1926	17·8	11·6	70	0·43	0·00	0·09	0·02	0·07	0·10	0·01	0·14	0·96
1927	16·6	12·3	70	0·43	0·00	0·09	0·01	0·07	0·09	0·01	0·16	0·95
1928	16·7	11·7	65	..	0·00	0·11	0·01	0·06	0·07	0·01	..	..

Number of persons of each sex at various age-periods in the Nottingham population, Census of 1921.

AGES.	Males.	Females.	Total.
Under 1 year	2,876	2,751	5,627
1 and under 2 years ..	3,046	2,836	5,882
2 ,, 3 ,, ..	1,673	1,689	3,362
3 ,, 4 ,, ..	1,614	1,602	3,216
4 ,, 5 ,, ..	1,900	1,958	3,858
5 ,, 10 ,, ..	11,759	11,752	23,511
10 ,, 15 ,, ..	12,534	12,744	25,278
15 ,, 20 ,, ..	10,977	12,982	23,959
20 ,, 25 ,, ..	9,592	12,823	22,415
25 ,, 30 ,, ..	8,910	12,026	20,936
30 ,, 35 ,, ..	8,568	11,026	19,594
35 ,, 40 ,, ..	8,861	10,824	19,685
40 ,, 45 ,, ..	8,502	9,949	18,451
45 ,, 50 ,, ..	7,859	8,768	16,627
50 ,, 55 ,, ..	6,440	7,504	13,944
55 ,, 60 ,, ..	5,369	6,194	11,563
60 ,, 65 ,, ..	4,315	5,069	9,384
65 ,, 70 ,, ..	3,259	3,924	7,183
70 ,, 75 ,, ..	1,844	2,422	4,266
75 ,, 80 ,, ..	971	1,527	2,498
80 ,, 85 ,, ..	376	637	1,013
85 ,, 90 ,, ..	113	189	302
90 ,, 95 ,, ..	21	43	64
95 ,, 100 ,, ..	—	6	6
100 years and upwards ..	—	—	—
Total population .. .. (Census of 1921)	121,379	141,245	262,624

In studying the above table it must be remembered that, with a falling birth-rate, and an infant death-rate at a uniformly minimum figure, the age of the population, and in the end consequently its rate of mortality, must steadily advance.

Extracts from Vital Statistics for years 1916 to 1928 (inclusive) in form required by Ministry of Health.

	LIVE BIRTHS					Birth-rate.	Deaths.	Death-rate.	No. of women dying in, or in consequence of, childbirth.		Deaths of infants under one year of age per 1,000 live births.			DEATHS FROM		
	Legit		Illegit.		Total.				From Sepsis.	From other causes.	Legit.	Illegit.	Total.	Measles (all ages).	Whooping cough (all ages).	Diarrhoea (under 2 years of age).
	M.	F.	M.	F.												
1916	2,419	2,311	188	191	5,109	19·9	3,780	16·0	5	14	109	203	116	60	22	131
1917	1,904	1,890	201	204	4,199	15·9	3,653	15·4	3	12	119	205	127	105	66	61
1918	1,885	1,846	243	226	4,200	15·9	5,029	21·3	7	22	110	224	123	31	67	70
1919	2,284	2,178	239	221	4,922	18·3	3,750	14·5	8	17	96	204	106	11	25	70
1920	3,377	2,982	269	268	6,896	25·7	3,486	13·0	14	24	92	140	96	99	25	78
1921	2,859	2,802	238	241	6,140	23·0	3,491	13·1	6	13	95	186	102	—	42	107
1922	2,714	2,537	193	168	5,612	20·9	3,302	12·3	6	12	79	136	83	93	26	49
1923	2,604	2,425	177	166	5,372	19·9	3,285	12·2	6	16	83	134	86	27	34	67
1924	2,508	2,387	157	166	5,218	19·3	3,528	13·0	4	10	81	133	85	4	38	54
1925	2,516	2,383	144	148	5,191	19·2	3,725	13·8	4	17	94	140	96	96	31	49
1926	2,417	2,189	174	152	4,932	18·4	3,503	13·1	4	11	97	138	100	11	66	77
1927	2,188	2,145	161	141	4,635	17·4	3,744	14·1	2	14	81	129	84	20	9	76
1928	2,222	2,149	164	176	4,711	17·7	3,406	12·8	8	18	80	150	85	6	16	79

This table of extracts from vital statistics for the years 1916 to 1928 is so compendious and complete, and its figures can be so easily read, that a general analysis or comment appears to be redundant. A short explanation of its salient points, however, may be useful to those unaccustomed to the study of figures.

The birth-rate of Nottingham, as of the country at large, continues, with slight interruptions, its downward course. During 1913, the last completed year before the War, the rate had fallen continuously to 22·6; during the War it declined to 15·9 in 1917 and 1918, and then rose sharply to 18·3 in 1919 and 25·7 in 1920. From this point there was a continuous decline until 1927, when the rate was 17·4; during 1928 there was a very slight recovery, to 17·7, but there is probably little significance in this small oscillation.

In the absence of intercurrent epidemic diseases, the death-rate of Nottingham has differed of late but little from the average rate for the country as a whole. The influenza epidemic of 1918-1919 raised the death-rates for these two years, respectively, to 21·3 and 14·5. Between 1919 and 1926, the average of the annual death-rates, with nothing more serious than non-virulent influenza by way of intercurrent malady to raise the mortality, was 12·9; in 1927 there were 187 deaths ascribed to influenza alone, as well as a considerable indirect increase of those from respiratory diseases, and the rate in that year rose to 14·1 per 1,000. In 1928 the rate was down to 12·8—a very average figure.

During the years of the War there was a considerable increase in the ratio of illegitimate to legitimate births. For example, during 1916, 1917 and 1918, the illegitimate amounted, respectively, to 7·4%, 9·6%, and 11·2% of all births, whereas in years before the War, and since, the

extreme range of such percentage has been from about 5 to 7½%, the highest proportion on record before the War being 7·76%.

I have referred elsewhere to the continued high maternal mortality in, or in consequence of childbirth, and particularly to the eight maternal deaths from sepsis and eighteen from other causes in 1928 ; and have stated, with special regard to sepsis, that the condition is so frequently associated with cases of premature birth as to suggest the possibility of artificial interference with the pregnancy as a probable cause of the condition, especially in view of the fact that mothers have commonly no desire for offspring, and that conception when it occurs is often the result of accident.

The annual deaths, recorded in the last three columns of the table, from measles, whooping-cough, and diarrhœa, respectively, speak for themselves, and points of special interest in connection with them are dealt with under appropriate headings in other parts of this report.

Nottingham.

Marriages, 1916—1928.

	Churches.	Chapels.	Registrars.	Total.
1916	1,235	226	736	2,197
1917	1,159	122	826	2,107
1918	1,328	125	843	2,296
1919	1,803	139	1,156	3,098
1920	1,932	179	1,027	3,138
1921	1,403	130	975	2,508
1922	1,347	171	851	2,369
1923	1,290	151	814	2,255
1924	1,453	124	771	2,348
1925	1,343	144	818	2,305
1926	1,150	124	802	2,076
1927	1,360	129	849	2,338
1928	1,381	142	842	2,365

NOTTINGHAM, 1916-1928. INFANT MORTALITY.

Net Deaths from stated causes.

Causes of Death.	1916		1917		1918		1919		1920		1921		1922		1923		1924		1925		1926		1927		1928	
	Under 1 month	Under 1 year.	Under 1 month	Under 1 year.	Under 1 month	Under 1 year.	Under 1 month	Under 1 year.	Under 1 month	Under 1 year.	Under 1 month	Under 1 year.	Under 1 month	Under 1 year.	Under 1 month	Under 1 year.	Under 1 month	Under 1 year.	Under 1 month	Under 1 year.	Under 1 month	Under 1 year.	Under 1 month	Under 1 year.	Under 1 month	Under 1 year.
All Causes — Certified	217	588	181	526	198	495	243	517	261	660	247	623	203	462	191	461	208	441	180	494	188	492	150	387	184	399
All Causes — Uncertified ..	2	4	7	7	15	22	4	4	2	3	5	5	—	3	3	3	1	1	4	5	2	2	1	1	4	4
Small-pox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chicken-pox	—	—	—	1	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Measles	—	13	—	18	—	4	—	1	—	22	—	—	—	20	—	4	—	1	—	21	—	9	—	5	—	1
Scarlet Fever	—	—	—	—	—	1	—	—	—	1	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—
Whooping-cough	—	8	—	21	1	19	1	6	—	11	1	20	—	12	—	16	—	14	1	15	1	41	—	3	—	6
Diphtheria and Croup	—	—	—	—	—	—	—	1	—	1	—	1	—	—	—	—	—	—	—	1	—	2	—	2	—	1
Erysipelas	2	3	—	—	—	—	—	—	—	—	1	2	—	1	—	—	1	1	—	1	—	—	—	—	—	—
Tuberculous Meningitis	—	4	—	11	1	5	—	7	—	11	—	5	—	5	—	2	—	5	—	3	—	7	—	4	—	3
Abdominal Tuberculosis ..	1	6	1	14	—	5	—	2	1	6	—	4	—	2	—	5	—	1	—	1	—	—	—	1	—	—
Other Tuberculous Diseases ..	—	5	—	5	—	6	—	5	—	5	—	1	—	—	—	9	1	1	—	6	—	4	—	1	—	3
Meningitis (*not Tuberculous*) ..	1	8	—	4	—	2	—	3	—	3	—	5	1	2	—	4	1	8	—	1	—	1	—	3	1	4
Convulsions	8	25	5	17	6	10	8	15	7	25	6	11	8	14	1	11	5	10	7	10	7	13	3	7	1	7
Laryngitis	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	1	—	1	—	—	—	—	—	—
Bronchitis	4	34	2	34	3	32	6	35	9	48	5	32	2	26	6	29	9	27	3	22	4	24	1	15	1	21
Pneumonia (all forms)	4	94	4	82	6	77	10	81	7	102	11	114	7	78	4	66	11	84	7	128	6	80	5	95	12	81
Diarrhœa	5	63	1	36	1	24	3	23	—	24	2	26	1	5	1	11	1	6	4	42	4	70	4	66	14	67
Enteritis	3	36	3	16	—	38	3	33	3	46	11	71	4	37	2	46	5	43								
Gastritis	2	8	—	9	2	2	2	7	2	6	1	10	3	9	—	5	1	4	3	8	1	3	1	4	—	1
Syphilis	4	8	3	7	10	19	3	21	6	15	6	15	3	6	4	5	2	3	—	3	2	3	2	2	1	3
Rickets	—	1	—	2	—	2	—	—	—	—	—	3	—	—	—	3	—	1	—	5	—	—	—	1	—	3
Suffocation, overlying	5	6	1	8	2	8	4	7	1	3	3	4	1	1	—	1	1	3	1	3	2	3	1	1	—	—
Injury at Birth	1	1	10	10	5	5	9	9	15	15	7	9	7	7	7	7	4	4	7	7	4	4	2	2	11	11
Atelectasis	25	25	19	19	19	20	17	17	28	31	27	28	24	25	28	29	24	24	20	20	15	15	14	17	18	18
Congenital Malformations ..	15	28	18	21	10	17	22	27	22	36	27	34	26	39	19	28	9	20	5	12	18	31	13	21	13	23
Premature Birth	101	114	82	89	98	101	125	130	118	134	109	116	85	93	85	92	86	94	97	100	92	104	74	75	84	88
Atrophy, Debility, Marasmus ..	28	66	26	71	24	58	26	61	22	77	29	82	28	58	30	72	25	42	13	59	28	69	18	40	13	28
Other causes	8	32	6	31	10	39	4	26	13	37	1	30	3	19	4	16	23	45	16	29	6	11	13	23	15	29
Totals	219	592	188	533	213	517	247	521	263	663	252	628	203	465	194	464	209	442	184	499	190	494	151	388	188	403

Infant Mortality Table.—This table may in great measure be left to speak for itself, giving as it does the certified and uncertified deaths of infants from various causes during each year of the period 1916 to 1928 (inclusive), but not showing any mortality sufficiently exceptional to call for very special comment. Measles and Whooping-cough took their usual toll at intervals, but to an extent distinctly below the average, except only in the case of Whooping-cough during 1926, when the deaths were 41 in number. Premature births were somewhat more numerous and fatal than usual during the war-period, and for some time after, especially in the two years (1920-1921) following demobilization; but their excess was not very exceptional if due allowance is made for the fact that the birth-rates in these latter years underwent a considerable increase. These were the only years, indeed, of the whole period under review, in which the annual infant deaths exceeded 600, and during these years the birth-rate made a sudden, though only temporary, recovery, from the almost continuous downward movement of recent years. The birth-rate of 1920 was 25.7, and that of 1921, 23.0, as compared with 18.3 in 1919 and 17.7 in 1928. A higher birth-rate, other things being equal, obviously carries with it a higher aggregate infant mortality.

Local Acts, Adoptive Acts, By-Laws and Orders, in force in the City and Administered wholly or in part by the Health Department.

LOCAL ACTS.

Title.	When First Operative.
Nottingham Improvement Act, 1867	.. 12th April, 1867.
Nottingham Improvement Act, 1874	.. 7th August, 1874.
Nottingham Corporation Act, 1882	.. 10th August, 1882.
Nottingham Corporation Act, 1883	.. 29th June, 1883.
Nottingham Corporation Act, 1905	.. 4th August, 1905.
Nottingham Corporation Act, 1923	.. 2nd August, 1923.
Nottingham Corporation Act, 1925	.. 7th August, 1925.

ADOPTIVE ACTS.

Title.	Sections Adopted.	When Adopted.
Infectious Diseases (Prevention) Act, 1890.	All sections	.. 5th January, 1891.
Public Health Acts (Amendment) Act, 1890	20, 21, 22, 24, 26, 27, 28, 29, 30, 31, 32, 48	.. 6th February, 1899.
Public Health Acts (Amendment) Act, 1907	19	.. 10th August, 1920.
	33	.. 10th August, 1920.
	39	.. 15th July, 1919.
	40	.. 15th July, 1919.
	41	.. 15th July, 1919.
	42	.. 15th July, 1919.

BY-LAWS AND ORDERS.

Title.	Date of Government Approval.
Common Lodging-houses	17th December, 1880.
Spitting	13th January, 1904.
Removal of Refuse	24th December, 1913.
Shops Acts, Ironmonger's Closing Order ..	3rd March, 1919.
Shops Acts, Drapers' Closing Order ..	4th March, 1918.
Shops Acts, Butchers' Closing Order ..	6th December, 1920.
Shops Acts, Boot & Shoe Retailers' (Half-day) Closing Order	5th December, 1921.
Shops Acts, Boot & Shoe Retailers' Closing Order	5th December, 1921.
Shops Acts, Barbers' & Hairdressers' Closing Order	7th April, 1924.
Slaughter-houses	8th June, 1925.
New Streets and Buildings	12th April, 1926.
Houses let in Lodgings	5th July, 1926.

HOSPITALS AND OTHER LIKE ESTABLISHMENTS, AND ALLIED SERVICES.

ISOLATION HOSPITALS AND THE WAR-PERIOD.

It will, I think, be fitting at the outset to make some reference to the war-period, the greater part of which is embraced by this survey, and to some incidents of this tragic period affecting the administration of the Health Department, and illustrating the adaptability of several of its sections, in the altered conditions of the time, to meet the needs of a mixed civil and military community.

The staff of the Health Department was very seriously depleted during the continuance of the war, and for some time afterwards, alike in the clerical, medical, nursing, inspectorial and scavenging sections; and we were fortunate to escape any special incidence of those diseases which are commonly associated with defective sanitation, especially when this is combined with scarcity. It is a remarkable fact, however, that, excepting only the terrible visitations of influenza in the autumn of 1918 and the spring of 1919 (*i.e.* almost immediately before and after the Armistice, respectively), there was no serious local trouble from epidemic disease during the whole of the war-period. Indeed, so little relative demand was made during this time upon the accommodation of our isolation hospital at Bagthorpe, by current local cases of such diseases as enteric fever, scarlet fever, and diphtheria, that we were able to devote a large part of it to the purposes of an auxiliary military hospital, for ordinary medical and surgical cases and for those of a septic and generally infectious character occurring among the troops on service.

Moreover, owing to this comparative freedom from serious infectious sickness of home origin, we were in a position to set apart, at the request of the Local Government

Board and the War Office, one of the large permanent ward-blocks of the hospital (No. 4) for the accommodation of cases of advanced phthisis ordinarily admitted to the Union Infirmary; and thus free a considerable section of the latter for the reception of sick and wounded soldiers. This accommodation was provided and utilized continuously from 27th March, 1915, to 12th January, 1920, and 385 cases of advanced phthisis were dealt with by us during that period. The numbers admitted during each year of the period were as follows :— 1915, 123 ; 1916, 62 ; 1917, 72 ; 1918, 70 ; 1919, 57 ; 1920, 1.

The sick and wounded soldiers taken in to other parts of our hospital from 1915 to 1919, inclusive, were 1,456 in number, and those admitted in each year of the period were as follows :—1915, 46 ; 1916, 338 ; 1917, 705 ; 1918, 263 ; and 1919, 104.

Although our hospital was classed only as "auxiliary," and therefore was not directly subject to military control or discipline, it was under continual supervision and inspection, by the officers of the Local Government Board and the War Office, during the whole War-period. Moreover, we know that the service of the hospital was satisfactory to both these Government Departments, by the very flattering certificate and letter of thanks we received from the War Office after the removal of the last of their patients, and also by the Royal Red Cross decoration conferred upon our Matron at a later date.

Another item of our war work much appreciated by the military authorities, was that of cleansing from lice, and other "minor horrors" of similar character, the uniforms and underclothing of troops on service. Our

steam disinfecting apparatus and our fumigator, at the Eastcroft on London Road, were frequently requisitioned at very short notice to deal with large quantities of such material. The possession of two well-equipped disinfecting stations, at the Eastcroft and at the principal Isolation Hospital, respectively, enabled us to undertake exceptional work of this character without dislocation of the ordinary routine service of the Department for the current needs of the civil community.

The Isolation Hospitals of the City of Nottingham are two in number, viz. the general isolation hospital and sanatorium on the Hucknall Road, some three miles from the centre of the City on the north ; and the small-pox hospital, about two and a quarter miles beyond this, in the same direction, standing on a tongue of Bulwell Common at the extreme northern limit of the City.

The General Isolation Hospital and Sanatorium consists for the most part of eight separate one-storied blocks of wards and offices, with verandahs (most of the buildings being of a permanent type), capable of accommodating between 200 and 300 patients at once ; the allocation for special diseases and purposes varying with incidental needs from time to time. The different uses to which the several parts of the hospital (including the corridors) were put during the war-period, furnished an excellent example of this continually shifting allocation. The hospital stands upon an enclosure of $12\frac{1}{2}$ acres, sloping gently from north-west to south-east, with an altitude above ordnance datum (*i.e.* mean tide level at Liverpool), ranging from 160 ft. to 220 ft., and a soil and subsoil of Bunter Sandstone.

The Small-pox Hospital consists of two large temporary ward-blocks, constructed of corrugated-iron,

wood and slate, together with a laundry and other offices, and is capable of accommodating upwards of 70 patients of both sexes at once, without crowding. This hospital is built upon a well-fenced enclosure of about four acres, at an elevation of some 190 ft. above O.D. It was not required for the isolation of small-pox cases during the war-period; and, as another illustration of the different uses to which such hospitals may advantageously be put, at need, I may mention that, at one time (during 1915), it was used for the accommodation of about 450 Sherwood Foresters sent home from the Western Front with intractable scabies.

During 1921, after an interval of ten years, we were called upon once more to deal with an outbreak of small-pox, originating, apparently, so far as our cases were concerned, at Long Eaton in Derbyshire. We have experienced no great difficulty in dealing with our local outbreaks; but, as shewing the need for continued vigilance, I may mention that on twenty-nine separate occasions since 1921, fresh foci of infection have been created in our area by importations from without. At the request of neighbouring local authorities—including the Nottingham and Leicester County Councils, and the Town Councils of Derby, Leicester, Lincoln, Mansfield, and 22 other local governing bodies—,endorsed by the Ministry of Health, we have entered into an agreement with these bodies from time to time during the past eight years, to admit their small-pox cases to our hospital; and, owing to the fact that the disease has never been extensively prevalent over any considerable part of the area surrounding Nottingham at one time, we have been able to admit, without inconvenience, all the cases from outside the City which we have been called upon, under this agreement, to take. These have amounted to

1,130 in the seven years (1922-1928) which have elapsed since the arrangement began, the successive annual totals being 60, 123, 202, 424, 154, 72 and 95.

Small-pox in its epidemiological aspects and vaccination are dealt with on pages 62 to 71 in the Infectious Diseases Section of this report.

The hospitals and sanatoria of Nottingham which deal with tuberculosis, contain the following numbers of beds for cases of this disease: viz., the City Sanatorium, situated within the isolation hospital enclosure at Bagthorpe, 77 beds; the Bulwell Hall Sanatorium and open-air school for convalescent phthisical children, 50 beds; the General Hospital, such beds as may be necessary for emergency cases; and the Bagthorpe Poor-Law Infirmary, 67 beds for males and 27 for females. Cases of surgical tuberculosis are also sent in considerable numbers by the Health Department—principally in co-operation with the Cripples' Guild—to St. Gerard's Hospital, Coleshill, (now the Warwickshire Orthopædic Hospital), and the Children's Hospital, Gringley-on-the-Hill. Some particulars of the cases treated at the City Sanatoria are given in the Tuberculosis Dispensary table (p. 47) and in the Isolation Hospitals and Sanatoria tables (pp. 149 to 155) of this Report.

The existing provisions for the hospital and sanatorium treatment of tuberculous cases are probably adequate to the needs of the City, except so far as advanced cases of phthisis (pulmonary tuberculosis) are concerned. There is no provision of institutional accommodation for these beyond that of the Poor Law Infirmary.

The fact that the mortality from tuberculosis in Nottingham has fallen between 43 and 45% during the

past 30 years, speaks well for what has been done, both directly and indirectly, during this period, to combat the disease.

There was a widespread increase of the disease among persons of both sexes—especially adult females—between 5 and 45 years of age during the war-period; but the almost continuous decrease since the end of the War, which Nottingham shares with the country at large, has been so remarkable as to suggest the operation of special common causes in its production, such as the substitution of peace and plenty and improved sanitation and housing, and an altered psychic state, for the conditions incidental to that time of stress and strain and general shortage of all that makes for health, comfort and convenience.

The maternity hospitals of Nottingham and their bed capacities are as follows:—Abel Collin Hospital, Sherwood, 36 beds; Poor Law Infirmary (lying-in wards), 30 beds always available, but more if required.

Private maternity homes, eleven in number, inspected and approved under the Nottingham Corporation Act of 1925, 29 beds.

The General Hospital and the Women's Hospital have beds available at all times for maternity cases calling for operative interference.

The City Corporation does not provide or subsidize any part of this accommodation, beyond the payment of an annual subscription to the General Hospital, but its officers co-operate closely with the management of each establishment or institution in making such accommodation available for cases in need of it.

The provision of such maternity beds in the City appears to be adequate to meet the existing demand, though not perhaps the need for such provision, among the poor.

The Children's Hospital of Nottingham contains about 70 beds, and when fully completed will have more. It is an entirely up-to-date institution for both the in- and the out-patient treatment of medical and surgical cases of a non-infectious type.

The orthopædic beds of this hospital are dealt with in the following section.

There is no Special Orthopædic Hospital for Nottingham at present, but in the under-mentioned hospitals, beds are set apart for orthopædic cases in the following numbers :

Poor Law Infirmary—70 beds; with allocation of eight each, for men and women, and twelve for children, on the open-air verandahs ; and twelve each for men and women, and eighteen for children in the wards.

Children's Hospital—about 16 beds—10 on the open-air verandahs, and 6 in the wards.

General Hospital—2 to 6 beds. Patients found to require prolonged in-patient treatment are commonly transferred to the orthopædic wards of the Union Infirmary, but in charge (after transfer) of the same surgeon as at the General Hospital.

City Sanatorium, Bagthorpe—6 beds for children.

Moreover, the Health and the Medical Inspection (of school children) Department, defray the cost of maintaining and treating a number of orthopædic cases among children (usually about 16 altogether, including the tuberculous) discovered at the M. & C.W. and M. I. Clinics, in St. Gerard's Hospital, Coleshill, and the Children's Hospital, Gringley-on-the-Hill, which are selected and sent by the orthopædic surgeon of the Cripples' Guild, Park Row. But this Guild have now in course of construction at Harlow Wood, near Newstead, Notts., about 11 miles to the north of Nottingham, a special orthopædic hospital designed to accommodate some 80 children, and 40 beds in which are to be set apart for Nottingham patients. This hospital, when opened, will supersede the hospitals outside the county at present utilized for Nottingham cases.

The Eye Infirmary on the Ropewalk is a high-class modern ophthalmic hospital of 40 beds, with an excellent out-patient department. The closest rapprochement exists between this hospital and the out-patient clinic for ophthalmia neonatorum at the central office of the Health Department, and the Corporation subscribes £73 per annum to its funds.

The Venereal Diseases Hospital and Clinic, known as Greendale House Hospital, on Gregory Boulevard, established in June, 1924, is dealt with in the Venereal Diseases Section later on in this report.

Two hostels, under one management, **for unmarried mothers and their infants,** were established by the Corporation, in December, 1919, and March, 1921, at Nos. 1 and 3 (two houses in one), and No. 95, Queen's Walk (now Queen's Drive), respectively, with beds and cots numbering 20 each. In 1927, a crèche was added, with

the consent of the Ministry of Health, principally to accommodate the infants of mothers who have passed through the hostels, and are in the early stages of resumed industrial employment, and also to enable the matron superintendent and her staff to maintain their influence over the mothers. The bugbear of day-nurseries is infectious sickness, but hitherto by the exercise of unremitting vigilance all trouble from this source has been excluded.

It is, of course, out of the question to advertise these hostels, and the work they do and aim at doing, either very widely, or very loudly ; but the few people who have an intimate acquaintance with them speak very strongly, and altogether without reservation, in their praise. Many young lives have been saved from hopeless degradation by their agency.

Homes for Uncared-for Children.—A large amount of institutional accommodation for homeless or uncared-for children, is provided by the Nottingham Poor Law Guardians ; at the Hartley Road Institution, which is capable of housing comfortably about 90 children ; in 13 scattered homes, each having a capacity for some 12 children ; and in one special home for working boys, which can accommodate 16 at one time.

LIST OF
CLINICS AND TREATMENT CENTRES.

Maternity and Child Welfare Centres and Clinics.

Name and Situation.	Nature of Accommodation.	By whom provided.
25, Wilford Road	Adapted private house ..	By Local Authority
104 St. Ann's Well Road.	Adapted house and shop ..	Do.
136-138 Radford Boulevard.	Two adapted houses and shops.	Do.

Name and Situation.	Nature of Accommodation.	By whom provided.
27, Palm Street ..	Adapted public - house premises, largely reconstructed.	By Local Authority
"The Homestead," Highbury Road.	Adapted private house ..	Do.
City Mission Hall. Carlton Road.	Large central hall with surrounding offices.	Do.
Drayton Street Wesleyan Chapel.	Chapel and school-room ..	Do.
"Forest Dene," Gregory Boulevard.	Ground-floor rooms of large adapted private house.	Do.
Day Nurseries.		
Nottingham Day-Nursery, Heathcote Street.	Accommodation for 37 children during mothers' working-day.	By private society.
Pearson Street, .. Basford.	Accommodation for 24 to 26 children during mothers' working-day.	Do.
95, Queen's Drive	Accommodation for 16 to 18 children during mothers' working-day.	By Local Authority
School Clinics.		
Chaucer Street. ..	Equipment for treatment of minor ailments, dental defects, eyesight examinations, surgical treatment of defects of nose and throat, X-ray and Ultra-violet Ray.	By Local Authority
Eastcroft. ..	Cleansing station & scabies treatment centre.	Do.
Hollow Stone. ..	Clinic for minor ailments	Do.
Beaconsfield Street, Scotholme.	Do. Do. ..	Do.
Coventry Road School.	Clinic for minor ailments, and refraction,	Do.

Tuberculosis Dispensary.

Name and Situation.	Nature of Accommodation.	By whom provided.
33-35, North Church Street.	Two adapted private houses. 1st floor rooms.	By Local Authority

Treatment Centres.—Venereal Diseases.

29-35, North Church Street.	Four adapted private houses—ground and 2nd floor rooms.	By Local Authority
Greendale House Hospital, Gregory Boulevard.	Large 15-roomed house, equipped for both in- and out-patient treatment of women and children, including maternity cases.	Do.

Orthopædic Clinic.

Nottingham Cripples' Guild, 19, Park Row.	A recently erected modern out-patient orthopædic clinic, with gymnasium, exercise-room, and apparatus workshops attached. A subsidy of between £600 and £700 is paid annually by the Corporation of Nottingham to this Association.	By private guild or association.

Ultra-violet Ray Clinics.

32, Heathcote Street.	An out-patient clinic (for general public), furnished with 7 lamps ; 2 rooms for children, 3 cubicles for adults.	By Local Authority
Chaucer Street. ..	M.I. Clinic for children of school age, furnished with one lamp.	Do.

Hostels for unmarried Mothers and their Children.

1, Queen's Drive ..	10 beds (for mothers) and 10 cots (for children).	By Local Authority
95 Queen's Drive..	10 beds (for mothers) and 10 cots (for children).	Do.

M. & C.W. Centres and Clinics.—The Mothers' and Babies' Welfare Centres of the City—originally known as Mothers' and Babies' Welcomes—combining the functions of schools for mothers, out-patient clinics for mothers and babies, including ante-natal clinics, and centres for the sale (at a low price) of suitable foods for hand-fed infants and young children, were first established in Nottingham by voluntary agency in the early part of 1908. The Nottingham Welfare Centre (for there was only one at the outset) was the second to be established in this country, that of St. Pancras, opened in the previous autumn, being the first. The Corporation provided and equipped the first Welfare premises, in Howard Street, free of charge, and also appointed and paid two health visitors and a (sessional) Medical Officer, to carry out the welfare work at the Centre, and in the homes of the poor ; but the administration and supervision were left to a voluntary committee (of which I was a member) and myself. The success of the scheme was manifest from the beginning, alike in the benefit to both the mothers and their babies, and in the mothers' appreciation of this benefit, as evidenced by the rapidly growing attendance. The infant and the general death-rates showed a tendency to decline at once ; and when, later on (in 1912), the abolition of pail-closets was seriously commenced, and with and in consequence of this, the prevalence of diarrhœal diseases was greatly diminished, the fall in both rates became more definite and continuous.

To meet the growing demand among poor mothers for the Welcome's ministration, a second Centre was opened, in October, 1909, at Windmill Street, Radford, subsequently moved, in May 1911, to 109, Alfreton Road, and, later still, in March 1914, to 136 Radford Boulevard,

where it now remains ; and a third, in July, 1911, was established on London Road, removed, in June, 1915, to its present habitation, No. 25 Wilford Road.

As stated above, the first Centre at Howard Street was provided by the Corporation. The second and third, however, in the Radford and Meadows districts respectively, were established, equipped, and maintained at the expense of private benefactors (Lord Henry Bentinck, Mrs. Caroline R. Weinberg, and the late Mr. Harry Weinberg), until the passing of the Maternity and Child Welfare Act of 1918, when the whole of this section of Welfare work became an official branch of the Health Department's activities. The annual contribution of the Corporation to the cost of this Welfare work at the time when they took it over under the M. and C.W. Act, was, approximately, £600; made up of £350 in salaries, £30 in rent of the Howard Street house, £200 in fixed subsidy, and £20 in sundries.

After the Local Authority had assumed control of the undertaking, and accepted financial responsibility for all its commitments, under the Act, there was no longer any economic hindrance to the establishment of additional centres in poor districts hitherto unprovided with them ; and, after careful consideration, and within a period of little more than 3 years, five houses were taken in the following situations for use as centres, and, although they have not all been equally well attended, all have been more than sufficiently successful to justify their opening : St. Ann's Well Road (1918), New Basford (1918), Bulwell (2 Centres, 1918 and 1920), Carrington and Sherwood (1921), and Hyson Green (1921).

It may be well to mention here, once more, that the scheme under which the Centres are primarily brought

MATERNITY AND CHILD WELFARE DEPARTMENT.

DAYS AND HOURS OF CLINICS AND WELCOMES AT VARIOUS CENTRES.

	CLINIC CONSULTATIONS.			WEIGHINGS ETC., (WELCOMES.)		ANTE-NATAL CLINICS.
MONDAY ..	25, Wilford Road. Dr. J. W. Scott, 3.30 to 5.30 p.m.	Forest Dene, Gregory Boulevard. Dr. Jean J. M. Morton, 3—5 p.m.	The Homestead, Highbury Rd., Bulwell. Dr. Ethel Landon, 3—5 p.m. With weighings 2—5 p.m.	104, St. Ann's Well Rd. 2—5 p.m.	136 Radford Boulevard. 2—5 p.m.	
TUESDAY ..		The City Mission Hall, Carlton Rd., Sneinton. Dr. B. R. B. Truman, 3—5 p.m. With weighings, 2—5 p.m.		104, St. Ann's Well Rd., 2—5 p.m. 136, Radford Boulevard. 2—5 p.m. 27, Palm Street. 2—5 p.m.	25, Wilford Road. 2—5 p.m. Forest Dene, Gregory Boulevard. 2—5 p.m.	1st and 3rd Tuesdays .. 104, St. Ann's Well Road. 2nd Tuesday .. 25, Wilford Road 4th Tuesday. .. 136, Radford Boulevard Dr. Jean J. M. Morton
WEDNESDAY ..	136, Radford Boulevard. Dr. Jean J. M. Morton, 3—5 p.m., Dr. J. W. Scott, 3.30—5.30 p.m.	United Methodist Chapel, Drayton St., Sherwood. Dr. P. Hardy, 3—5 p.m. With weighings 2—5 p.m.		104, St. Ann's Well Rd. 2—5 p.m.	The Homestead, Highbury Rd., Bulwell. 2—5 p.m.	
THURSDAY ..	The City Mission Hall, Carlton Rd., Sneinton. Dr. B. R. B. Truman, 3—5 p.m. With weighings, 2—5 p.m.	104, St. Ann's Well Rd. Dr. Jean J. M. Morton, 3—5 p.m.		104, St. Ann's Well Rd. 9.30 a.m.—12.30 p.m. 25, Wilford Road. 2—5 p.m.	136 Radford Boulevard. 2—5 p.m. Forest Dene, Gregory Boulevard. 2—5 p.m.	
FRIDAY ..	104, St. Ann's Well Rd. Dr. B. R. B. Truman, 3—5 p.m.	27, Palm Street, Basford. Dr. J. W. Scott, 3.30—5.30 p.m. With weighings, 2—5 p.m.		136, Radford Boulevard. 2—5 p.m.		

into relation with the homes of the poor, is for the health visitor appointed under the Notification of Births Act of 1907 (adopted by the Nottingham Local Authority in 1908), to visit the mothers and their infants shortly after the latter are born, and invite the mothers to attend the nearest Welfare Centre with their infants, as soon as they are reasonably able to do so. The Health Visitor breaks the ice during the home visits, both in making acquaintance with the mother and giving her instruction in health matters; and, afterwards, the way is open for the woman to attend the Centre and learn more, alike from its officers and from other mothers, also attending, with whom she almost necessarily compares notes.

The attendance of pregnant women at the Ante-natal Clinics (now regularly held on the 1st and 3rd Tuesday of each month at St. Ann's Well Road, on the 2nd Tuesday at Wilford Road, and on the 4th Tuesday at Radford,) is secured by the co-operation of the mid-wives, who obviously consult both their own and the pregnant women's interests in sending the latter up for examination. Abnormality or disease, if present, is detected by the Medical Officer of the Clinic, and the midwives and their patients receive appropriate informa-tion and instruction according to the condition revealed by examination.

The success of this work in all its branches, without exception, has never been for a moment in doubt. Nearly 50% of all the children born in the City come into touch with a Welfare Centre; the visits of mothers to the Centres every year number between 40,000 and 50,000, and those of Health Visitors to the homes, between 30,000 and 40,000; and last, but not of least importance, the attendance of pregnant women at the Ante-natal Clinics

is continually growing. The number of expectant mothers attending the ante-natal clinics during 1928 was 450 (*i.e.* approximately one-tenth of all such mothers for that year), as compared with 107 in 1919 (10 years ago). The average number of mothers attending each Clinic Session during 1928 was 25, as against 9 in 1919.

All Maternal Deaths in Childbirth, or otherwise in connection with pregnancy, are investigated by the inspectors of midwives acting under the direction of the Medical Officer of Health, assisted by the medical officer of the ante-natal clinics ; and, since the appointment by the Ministry of Health of a departmental committee for inquiry into the causes of such deaths, these investigations have been made in the manner prescribed by that committee. I feel constrained, however, to state very emphatically, that in the opinion of all our local midwifery officials and midwives, a considerable and growing proportion of these deaths are due to wilful interference with pregnancy on the part of the victims or other persons.

The Certified Midwives practising in Nottingham at the present time (1928) are 53 in number. They are, for the most part, well qualified, reliable women, deeply interested in their work. They regularly attend the lectures arranged for their instruction, and show both commendable willingness to learn and aptitude in learning. It is specially gratifying to me that I am able to speak so well of them, in the first place, because they attend nearly 70% of all the births in the City, and, in the second, because they earn only a very poor living in doing so. These women receive no regular subsidy from the Corporation, but considerable sums are incidentally paid them by the latter (acting as the Local Supervising Authority) under Section 2 of the Midwives and Maternity Homes

Act, of 1926, by way of compensation for loss of practice when they are suspended from work " in order to prevent the spread of infection," and also under the Regulations of Circular M. & C.W. 4 (M. & C.W. Act 1918), as ordinary " fees for attendance," when they are called upon to attend uninsured and necessitous mothers.

Names and Addresses of all Midwives who have notified their intention to practice within the area of Nottingham City and County Borough during the year 1928 :—

No.	Name.	Address.
47098.	Ash, Lilian ..	.. 65, Silverdale Road.
34884.	Ashley, Eva Mary ..	.. 86, Blue Bell Hill.
69433.	Adamson, Nora ..	.. 178, Blue Bell Hill.
54577.	Ashton, Grace Emily	.. " Chez Nous,", Sandford Road, Mapperley.
31126.	Barnes, Marion ..	.. 83, Independent Street.
2837.	Bell, Florence Johnson	.. 59, Brighton Street.
7817.	Bosworth, Fanny ..	.. 415, Berridge Road.
61207.	Beecroft, Sarah Elizabeth	.. 20, Alderney Street.
48809.	Bexon, Lucy ..	.. 9, Thames Street, Bulwell.
33599.	Betts, Helen ..	.. 17, Regent Street.
56220.	Burge, A. Sarah ..	.. 44, Percival Road, Sherwood.
47931.	Chappell, Margaret	.. 10, Colliery Road.
46394.	Collins, Elizabeth ..	.. 123, Radford Boulevard.
33957.	Daykin, May ..	.. Alton House, Sneinton Hill (now 41 Kendrick Road, Thorneywood).
56801.	Dudley, Jane ..	.. 65, Sneinton Road.
60817.	Dudley, Florence ..	.. 123, Norton Street.
57336.	Duffy, Mary ..	.. Kincasslagh, Ireland, (Emergency : 16 West Street).
59326.	Eaves, Annie ..	.. 2, York Cottages, Coventry Rord.
56832.	Freeman, Leonie ..	.. 16, West Street.
50926.	Fisher, Elsie ..	.. 16, Gunthorpe Close.
61829.	Freeman, Edith A.	.. 76, Marlborough Road (now 39, Church Lane, Beeston).

No	Name.	Address
53107.	Godfrey, Edith O. ..	.. 80, Raleigh Street.
46070.	Green, Rose Mary ..	.. "Rose Dene," Dovecote Lane, Beeston.
2032.	Healey, Sarah ..	.. 106a, Dame Agnes Street
34167.	Hayes, Laura ..	.. 69, Blue Bell Hill.
4275.	Howlett, Emily Ann	.. 26, Sneinton Boulevard.
42457.	Holmes, Mary Elizabeth	.. 51a, Noel Street.
70552.	Hutchinson, Evelina C.	.. 30, Strelley Street (now 6, Alton Cottages, Factory Lane.)
42468.	Hydes, Elizabeth M.	.. 20, Hetley Road, Beeston.
46509.	Johnson (now Elliott), Isabella,	3, Devon Street.
12222.	Jones, Annie ..	.. 49, Wilford Grove.
58208.	Lee, Catherine ..	.. 18, Clifford Street.
36917.	Leedell, Sarah Ann ..	.. 62, Rowland Terrace, Heskey Street.
39081.	Maltby, Mary Ann ..	.. 19, Stockhill Lane.
25906.	Moore, Nellie Elizabeth	.. 65, Briar Street.
35032.	Martin, Mabel Frances	.. 370, Meadow Lane.
63551.	Owen, Florence ..	.. "Louvain," Emmanuel Avenue.
41582.	Robinson, Edith Elizabeth	.. 76, Highbury Road.
57571.	Robinson, Emma Ellen	.. 76, Highbury Road.
33224.	Stewart, Mary ..	.. 18, Regent Street.
40614.	Stratton, Mabel J.	.. 369, Nottingham Road.
53462.	Stratton, Beatrice M.	.. 50, Maud Street.
62104.	Steans, Dulcie ..	.. 415, Berridge Road.
42632.	Scott, Alice Mary ..	.. 32, Hungerhill Road.
45035.	Slack, Charlotte A.	.. 9, Arno Avenue.
53974.	Skelham, Lilian ..	.. 125, Blue Bell Hill.
30399.	Stanley, Minnie ..	.. 172, Haydn Road.
66033.	Titterton, Lilian ..	.. 167a, Mansfield Road.
2769.	Warner, Sarah ..	.. 12, Beaconsfield Terrace, Harlaxton Street.
9989.	Winson, Charlotte ..	.. 1, Hardwick Road.
23269.	Wheatley, Sarah Ellen	.. 277, Alfreton Road.
18952.	Willson, Zillah Mary	.. 178, Carlton Hill.
47065.	Watkinson, Annie E.	.. 270, Woodborough Road.

Similar lists have been furnished to the C.M. Board for each previous year, under Section 8 of the Midwives Act of 1902.

The Nottingham District Nursing Association, with its headquarters at 13 Regent Street (Nottingham), has a staff consisting of a lady superintendent and 16 nurses ; and the latter are allotted to a like number of districts, into which, for the nursing purposes of the Association, the City is divided.

The Corporation subscribes to the funds of this Association, and, in return, the nurses devote special attention to cases nursed at home (other than those of acute specific fevers) in which the Health Department is officially interested—cases for example of phthisis, pneumonia, puerperal pyrexia—, and to which their attention is directed by the Department. In past years when epidemic diarrhœa was prevalent, their services were always available and of great value for the nursing of cases of this disease.

Eleven **Maternity Homes,** already referred to on page 33, were approved after inspection, under the provisions of the Nottingham Corporation Act of 1925, between 11th February, 1926, and December 1927, and registered. Ten other Homes were disapproved, and their registration refused. No formal appeal was made in any case against an adverse decision.

Eleven applications were received for the registration of **Nursing Homes,** under the Nursing Homes Registration Act, of 1927, and eight of these, having reference to homes already registered for maternity purposes under the Nottingham Corporation Act of 1925, will in all probability be granted anew ; the remaining three are still under consideration by the Health Committee. The principal hospitals of the City have applied for exemption from registration, and their applications are to be granted.

War Crèches.—The possession of temporarily vacant houses, or rather parts of houses, during the war, at 138 Radford Boulevard and 95 Queen's Walk, enabled the Health Department to open two crèches, or day-nurseries, in 1915 and 1916 respectively, for accommodating the infants and young children of women engaged at munition factories, or upon other work special to the time, which remained open till almost the close of 1918. The word " crèche " is used here, because this is the name by which these establishments were commonly known in Nottingham during the war, even among the poor. They were freely and fully utilized by the people for whom they were provided, and were highly appreciated. The daily admissions at 138 Radford Boulevard and 95 Queen's Walk, averaged 30 and 110 respectively.

The large number of daily admissions at 95 Queen's walk is explained by the fact that the Crèche was worked continuously on three shifts during each period of 24 hours, to meet the needs of the women with young children employed in shifts of eight hours duration at munition factories.

After the closing of the Crèche at 95 Queen's Walk, this house was utilized at a **hospital for influenza patients** until the end of the local outbreak of this disease in the spring of 1919. The need for such accommodation at this terrible time was extremely pressing, and about 60 patients were admitted to our temporary hospital.

The Tuberculosis Dispensary was established in 1912, in the first and second-floor rooms of three skilfully adapted private houses in North Church Street. It is now, however, about to be removed, with the approval of the Ministry of Health, to more commodious premises,

TUBERCULOSIS DISPENSARY. DATA FOR YEARS, 1920-1928.

	1920	1921	1922	1923	1924	1925	1926	1927	1928
No of cases on Register	1,825	1,828	1,886	1,812	2,029	2,019	989	999	1,054
Examinations of Cases	2,060	2,087	1,515	2,087	2,076	1,898	1,424	1,797	2,511
Cases admitted to Sanatorium ..	278	224	204	181	193	154	149	194	157
Cases discharged from Sanatorium ..	234	213	209	161	194	156	146	191	165
Cases in Sanatorium at end of year ..	59	50	39	99	101	89	79	83	73
Cases under Domiciliary Treatment ..	834	992	909	753	634	271	420	282	334
Cases referred to Hospitals	79	80	75	92	129	172	80	91	84
Non-Tuberculous Cases	192	352	483	412	427	445	392	252	334
Examinations of these cases ..	320	560	777	811	856	846	824	560	679
Doctor's visits to homes	312	320	250	234	198	170	104	40	69
Nurses' visits to homes	3,520	3,360	3,308	2,953	2,886	2,740	1,648	1,593	1,489
Consultations and Reports	1,149	1,150	1,289	1,166	1,095	1,165	1,001	1,023	1,027
Sputum specimens examined ..	1,170	1,170	874	877	834	796	690	601	788
Attendances at Orthopædic Clinics ..	..	..	..	..	..	..	..	392	450
X-ray Examinations	..	..	..	..	..	..	..	217	490

in Forest Dene House (next door to Greendale House V.D. Hospital), on Gregory Boulevard. The staff of the Dispensary consists, in addition to the Tuberculosis Officer, of three nurses and a clerk. The Medical Officer attends for the examination of patients, on Tuesday, Thursday and Friday, every week throughout the year, from 10 a.m. till 1.30 p.m., and at other times when necessary.

The accompanying tables give particulars of the cases which have attended at the Dispensary, or have been visited at their homes, or elsewhere, by the Medical Officer and his staff during each year, from 1920, when the records were first systematically kept, onwards.

Treatment of Venereal Diseases.— Following the report of the Royal Commission on Venereal Diseases (1913-1916) published in 1916, came the V.D. Order of the Local Government Board, dated 13 July, 1916, under which clinics for the free treatment of these diseases were established in counties and county-boroughs. The governing body of the General Hospital were asked in the first instance to take over the work, with a guarantee that all the expenses of carrying it out would be paid, 75% by the L.G.B., and 25% by the City Council. It was pointed out to them that the General Hospital were already doing, without payment, a large part of the work they were now invited to undertake at the public cost. The late Dr. Henry Handford, Dr. F. H. Jacob, Sir Arthur Newsholme, and I, did our best to persuade them to take it over, but without success. They contended that compliance with our request would involve the sacrifice of their, hitherto, purely voluntary status, and categorically refused to grant it. When the Local Authority realised that this refusal was final, they decided to open a municipal clinic in the ground floor rooms of

the premises already partly used as a Tuberculosis Dispensary in North Church Street. This was done in June of 1917, and, although the buildings at North Church Street (four adapted private houses belonging to the Corporation) are not ideally suitable, the situation is extremely convenient; and the work of treating, in alternate sessions, out-patients of both sexes suffering from these diseases, has been carried out there ever since in an eminently satisfactory manner, by Dr. J. C. Buckley, the Superintendent, and his staff of 5 Assistant Medical Officers, working by Sessions on every day of the week except Sunday. Two of the Assistant Medical Officers are ladies.

The Treatment Centre or Clinic became known to large numbers of the public it was intended to serve within a very short time of its opening, as evidenced by the fact that 1,552 persons attended for treatment, and 14,053 attendances of such persons were recorded, during the first calendar year after the opening.

Under the Regulations, the Clinic is required to be available for the treatment of all-comers, without regard to their means or place of residence, and in compliance with this requirement many patients from places beyond the City boundaries were treated. Roughly speaking, during this first year, two-thirds of the patients were Nottingham residents, and one-third residents in surrounding districts, the majority of the latter belonging to the County of Notts. These relative proportions, moreover, have remained almost constant for every subsequent year.

In 1920 the largest number of individual weekly attendances, 1,409, was recorded, a total considerably in advance of any corresponding figure before or since. But the greatest annual numbers of patients, both old and

new, with syphilis or gonorrhœa, under treatment or observation at the Centre, whether taken as one total or separately, were those of 1921. In that year there were 2,184 cases of syphilis, and 2,281 cases of gonorrhœa, on the books of the Treatment Centre; and a special study of the figures for each complaint, for each of the subsequent years, yields highly interesting and suggestive information.

The consecutive annual totals of syphilis cases from 1921 to 1928, inclusive, have been as follows:—2,184, 2,079, 1,832, 1,553, 1,450, 1,127, 1,099, and 1,040, shewing a continuous though unequal annual decline, amounting in the aggregate to 52.3%, between 1921 and 1928.* The corresponding annual figures for cases of gonorrhœa have been as follows:—2,281, 2,029, 1,744, 1,628, 1,595, 1,438, 1,508, and 1,702. But here it will be seen that although there was a fall down to and including 1926 amounting to nearly 37%, there has been a subsequent rise of more than 17% between 1926 and 1928. The fall in syphilis (of which we can speak definitely, so far at any rate as its early manifestations are concerned), is undoubtedly due to the operation of Ehrlich's wonderful remedy, Salvarsan, and its substitutes; the increase of gonorrhœa is probably explained by a combination of concurrent causes, of which the growing laxity of public morals and the lack of any specific remedy for the disease† are certainly the most potent.

The table which accompanies this section gives some particulars of patients of either sex dealt with each year at the North Church Street V.D. Clinic, since its first opening on 18 June, 1917.

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* This figure corresponds almost exactly with that given by L. W. Harrison and Jean Selme for France and other European countries (1919—1923, 1925).

† There is no remedy at all for gonorrhœa which will speedily remove the infectivity of patients, like salvarsan in the case of syphilis.

V.D. CLINIC, NOTTINGHAM.

Return of Male and Female Patients dealt with each year at the Clinic, from the opening on 18th June, 1917, to 31st December, 1928.

		1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	Totals.
NEW CASES :—														
Venereal :	Males	241	602	1,393	1,279	930	653	693	688	654	711	754	897	9,495
	Females ..	186	408	441	542	382	302	295	217	234	216	262	244	3,729
	M. & F. ..	427	1,010	1,834	1,821	1,312	955	988	905	888	927	1,016	1,141	13,224
Non-Venereal :	Males	31	64	218	177	176	159	139	174	190	241	271	271	2,111
	Females	22	93	66	122	147	129	105	55	67	88	83	60	1,037
	M. & F. ..	53	157	284	299	323	288	244	229	257	329	354	331	3,148
Totals	Males	272	666	1,611	1,456	1,106	812	832	862	844	952	1,025	1,168	11,606
	Females ..	208	501	507	664	529	431	400	272	301	304	345	304	4,766
	M. & F. ..	480	1,167	2,118	2,120	1,635	1,243	1,232	1,134	1,145	1,256	1,370	1,472	16,372
CURED :	Males	18	31	60	201	495	414	406	428	510	358	381	357	3,659
	Females ..	3	5	13	35	73	118	80	85	129	65	89	55	750
	M. & F. ..	21	36	73	236	568	532	486	513	639	423	470	412	4,409
TRANSFERRED :	Males	—	—	42	100	105	114	138	132	158	96	151	124	1,160
	Females ..	—	—	35	49	46	52	65	63	115	79	66	82	652
	M. & F. ..	—	—	77	149	151	166	203	195	273	175	217	206	1,812
CEASED TO ATTEND :	Males	42	86	416	368	528	652	548	242	312	247	235	173	3,849
	Females	32	50	131	225	194	281	160	146	225	155	156	118	1,873
	M. & F. ..	74	136	547	593	722	933	708	388	537	402	391	291	5,722
ATTENDANCES :														
Venereal :	Males	1,834	9,010	33,417	49,969	43,133	30,519	31,758	31,558	32,595	34,003	39,237	46,154	383,187
	Females ..	1,078	4,492	10,397	17,025	15,673	11,820	11,722	13,007	12,193	12,025	12,952	13,654	136,038
	M. & F. ..	2,912	13,502	43,814	66,994	58,806	42,339	43,480	44,565	44,788	46,028	52,189	59,808	519,225
Non-Venereal :	Males	62	237	450	420	423	360	292	362	467	584	707	605	4,969
	Females	44	314	239	226	240	190	214	248	189	126	204	112	2,346
	M. & F. ..	106	551	689	646	663	550	506	610	656	710	911	717	7,315
Totals :	Males	1,896	9,247	33,867	50,389	43,556	30,879	32,050	31,920	33,062	34,587	39,944	46,759	388,156
	Females ..	1,122	4,806	10,636	17,251	15,913	12,010	11,936	13,255	12,382	12,151	13,156	13,766	138,384
	M. & F. ..	3,018	14,053	44,503	67,640	59,469	42,889	43,986	45,175	45,444	46,738	53,100	60,525	526,540
ATTENDANCES from various districts :—														
Nottingham		2,369	9,284	34,209	52,264	46,273	32,174	31,998	31,411	32,336	33,833	36,342	41,688	384,181
Nottinghamshire		518	3,888	8,397	11,531	9,729	7,785	9,265	10,469	9,564	8,940	12,491	13,878	106,455
Derby		—	—	282	39	3	32	11	5	2	47	85	104	610
Derbyshire		122	808	1,174	3,331	3,246	2,766	2,556	3,104	3,392	3,773	3,983	4,740	32,995
Lincoln		—	32	201	185	81	38	41	51	33	33	44	8	747
Lincolnshire		9	—	166	99	7	2	2	—	20	38	32	3	378
Leicester		—	20	12	5	—	—	1	134	—	11	8	15	206
Leicestershire		—	—	51	170	98	68	96	—	86	51	115	89	824
Other Areas		—	21	11	16	32	24	16	1	11	12	—	—	144
Totals		3,018	14,053	44,503	67,640	59,469	42,889	43,986	45,175	45,444	46,738	53,100	60,525	526,540

V.D. Prophylactic Station.—Shortly after the entry of the U.S.A. into the War (April, 1917), I was requested by the Local Government Board and the War Office to co-operate with the local unit of the United States Army Medical Department in finding them suitable premises for an army and navy V.D. prophylactic station; and, after some hesitation on their part—for they had proposed to take a vacant shop in the Great Market Place, with a view to publicity—, I succeeded in persuading them to rent part of one of the V.D. Clinic houses in North Church Street. They fitted up these premises with remarkable promptitude, and in an entirely suitable manner, and used them for the practice of V.D. prophylaxis (prevention) until after the general demobilization in 1919. The station was open for use by any men serving with the Allied Forces, and the attendance was large at all times from the outset. The Medical Officers, with whom I was in intimate touch, both in Nottingham, and at the Hucknall Aerodrome, were thoroughly efficient and businesslike, and extremely pleasant people to deal with; and they conducted the station in such a way as to ensure, as far as practicable, the attainment of the object for which it was established. In this, as officers and public servants, they are worthy of commendation. But of the scheme itself, to which public stations of this character belong as a part, which aims at reducing by physical precautions practised and inculcated at the public expense, the risks arising from irregular sexual relations to a minimum, I have nothing but disapproval to express.

The actual details of the processes, in their quality as witnessed at the North Church Street station, can be fittingly characterized by only one word, and that is "beastly"; and the obvious effect upon those so

debased as to submit to them, is to destroy all self-respect, if they have any, and to encourage them in habits of promiscuity.

The Venereal Diseases Hospital and Clinic, known as Greendale House Hospital, on Gregory Boulevard, established by the Corporation in June 1924, contains 15 beds (12 women's beds and 3 infants' cots), a lying-in ward, and a large and well equipped out-patient department. It is utilized chiefly for the treatment of "insontes"—innocent cases—among married women, girls and children. This hospital has proved a boon to many patients of this class who have been the innocent victims of men, and whom it is desirable to shield from the vitiated moral atmosphere of the general clinic in North Church Street.

From January 1921 to June 1924, the ground floor premises of Greendale House were used as a Maternity and Child Welfare Centre, but in the latter year the Centre was removed to allow of the establishment of a V.D. out-patient department in Greendale House.

The numbers of in-patients, out-patients and confinement patients dealt with annually at the V.D. Hospital since the opening, have been as follows :—

	1924.	1925.	1926.	1927.	1928.
In-patients	24	44	61	50	50
Out-patients.. ..	20	45	102	111	156
Confinements ..	5 (6 mos.)	8	15	16	10

It was at first intended to provide male beds in the hospital, but this intention was ultimately abandoned; and male patients above the age of infancy, found to require in-patient treatment, are now sent to the General Hospital or the Poor Law Infirmary.

Greendale House Hospital.

Return of Patients dealt with during the period, 3rd June, 1924 (date of opening), to 31st December, 1928.

1.—Number of New Cases admitted.

Year.	Syphilis.	Gonorrhœa.	N.V.D.	Totals
1924	8	25	11	44
1925	21	34	14	69
1926	17	50	23	90
1927	10	49	24	83
1928	9	53	31	93
Total ..	65	211	103	379

2.—Number of In-Patient Days of Treatment given.

1924	1,623
1925	2,490
1926	3,568
1927	3,141
1928	2,282
Total ..	13,104

3.—Number of Out-Patient Attendances.

Year.	At Clinics.	Intermediate.	Totals.
1924	52	214	266
1925	293	897	1,190
1926	365	1,421	1,786
1927	533	2,865	3,398
1928	463	4,233	4,696
Total	1,706	9,630	11,336

4.—Statement showing services rendered by the Hospital, classified according to the Areas in which patients resided.

Area.	Out-Patient Attendances.	In-Patient Days of Treatment.
Nottingham	10,075	9,423
Nottinghamshire	700	1,248
Derbyshire	588	1,497
Other areas	3	936
Totals	11,336	13,104

With reference to Table 1, the total number of new cases, and the number of new cases of Gonorrhœa during 1928, were the largest ever recorded.

Table 2 brings to light a decrease in the number of In-Patient Days during 1928. This is mainly due to a falling off of in-patients during the first three months of the year. For the remainder of the year the accommodation was fully utilised.

Table 3 gives the annual Out-Patient Attendances, and shows at a glance the increase of work in this Department. The large total for 1928 is due not only to the number of new cases admitted during that year, but also to the impossibility of making admissions and discharges correspond to each other.

The following table shows the number of patients on the books at the end of each successive year since the opening:

1924	.. ..	26
1925	.. ..	68
1926	.. ..	128
1927	.. ..	168
1928	.. ..	218

Of the patients remaining under treatment or observation on 31st December, 1928, 40 had Syphilis, 148 Gonorrhœa, and 30 some Non-Venereal Disease. The last-named are chiefly babies and pregnant women on whom periodical serological tests are made before they are discharged.

The 148 gonorrhœal cases, together with those admitted during the present year (1929) will, it is expected, produce a further increased attendance during 1929.

The popularity of the Institution is evidenced by the regular attendance of patients ; during the whole period covered by this report only 15 were marked off as having ceased to attend before completion of treatment.

Table 4 shows that 11.12% of the out-patient attendances were made by, and 28.09% of the in-patient days of treatment were given to, patients resident in Administrative Areas outside Nottingham.

Ultra-violet Ray Clinic.—The Ultra-violet Ray Clinic, at 32 Heathcote Street, Nottingham, was offered to the Health Committee, in March, 1928, as a completely equipped and well appointed establishment with a large clientèle among the general public, by Mr. Julian Cahn, its founder. The Committee accepted the gift, with thanks, and decided to carry on the clinic with practically no alteration, excepting the appointment of one additional sessional medical officer, and the demand of a small payment for treatment by persons who could afford to make it. Some particulars of the equipment will be found under the heading of Clinics and Treatment Centres on page 38 of this Report.

Dr. R. A. C. Rigby, the senior Medical Officer, has furnished the following report of the work done at the Clinic since it was taken over by the Corporation.

City of Nottingham Health Department, Ultra-violet Ray Clinic.
March 25th to December 31st, 1928.

1.	Total No. of patients treated (males 96, females 198) ..	294
2.	Total No. of treatments administered	5,237
	Average No. of Radiations per patient	17·8
3.	No. of Paying patients : (*a*) Town	110
	(*b*) Country	6
4.	No. of Free patients	178
5.	Total No. of patients discharged cured	210
	Do. Do. improved ..	79
	Do. Do. no improvement ..	5
6.	Total No. of patients continuing treatment ..	69

Summary of Cases Treated.

Disease.	No.	Cured.	Great Improvement.	Moderate Improvement.	No Improvement.
Adenitis ..	10	7	3	—	—
Anæmia ..	14	12	2	—	—
Arthritis ..	20	2	13	3	2
Asthma	10	—	9	—	1
Bronchitis ..	18	12	4	2	—
Catarrh (Nasal) ..	10	6	4	—	—
Chorea	4	4	—	—	—
Debility ..	45	45	—	—	—
Disseminated-Sclerosis ..	3	—	2	1	—
Lumbago ..	5	5	—	—	—
Marasmus ..	12	12	—	—	—
Neurasthenia ..	16	11	5	—	—
Other nervous disorders ..	18	13	5	—	—
Pulmonary-Tubercle	3	—	3	—	—
Rickets ..	20	20	—	—	—
Rheumatism ..	53	35	10	6	2
Skin diseases ..	25	20	5	—	—
Surgical Tuberculosis	2	—	2	—	—
Whooping-Cough ..	6	6	—	—	—
	294	210	67	12	5

Cleansing and Disinfecting Stations.—Cleansing of Persons Act, 1897, etc.—The two excellent Cleansing and Disinfecting Stations of the Health Department, equipped with baths and steam disinfecting apparatus, and situated at the Eastcroft and at Bagthorpe Isolation Hospital respectively, were found specially useful during the War-period, both for the cleansing and disinfection of the persons and clothing of soldiers and civilians, the latter principally children infected with scabies or lice by soldiers invalided home or on leave from the Western front. At one time during 1916, scabies from this source was widely prevalent; but its eradication was ultimately effected by the vigilance and energy of the Health Visitors and School Nurses. There was a further outbreak, though of less extent and severity than the first, in 1921-1922; and this was successfully dealt with in a similar manner, that is, by rounding up cases and submitting them to suitable medical treatment, combined with cleansing and disinfection. The ordinary work of the Cleansing Stations is of course the cleansing and disinfection of verminous persons, and this has been done to a considerable, though, on the whole, a diminishing extent since the War; but the best use to which they have been put during the past few years, is the disinfection of the persons, clothing, and outfits of midwives after they have been exposed to infection. It is perhaps hardly necessary to add that all personal disinfecting work of this character, like that of cleansing verminous persons and clothing, is done gratuitously. The number of people dealt with each year at the Eastcroft and Isolation Hospital Stations between 1916 and 1928 is given in the accompanying list.

The routine disinfection (principally by current steam) of clothing, bedding and other like material, after exposure

to the infection of acute specific fevers, is undertaken independently (during fixed hours) at both the Eastcroft and the Bagthorpe Stations.

Year.	No. of Persons Cleansed and Disinfected.
1916 } 1917 }	427
1918	40
1919	14
1920	27
1921	107
1922	95
1923	39
1924	45
1925	27
1926	28
1927	30
1928	24

Ambulances.—The Health Department has three Morris ambulances, which are kept at the garage of the General Isolation Hospital at Bagthorpe. All are used (almost exclusively) for the transport of patients suffering from infectious diseases, and no charge is made for such use within the City.

The City Police have one Vulcan and three Talbot ambulances, which are used for the conveyance of non-infectious, medical and surgical, and accident cases, principally to the local hospitals. These are kept at the Central Police Depôt, in the Guildhall Yard. A charge of 5/- is made for the use of a police ambulance within the City, when the aggregate weekly wage of the household from which the patient comes is 50/- a week or more. No charge is made to households with means below this figure. For the use of a police ambulance outside the City, an initial charge of 10/- is made, and a further payment required of 1/- a mile, out and in, for all distances beyond the City boundaries.

The St. John Ambulance Brigade have two Ford ambulances, kept at a garage in Cumberland Place, Park Row, which are available for the carriage of all sorts of patients, excepting only those suffering from any of the "dangerous infectious diseases"—cases of measles and tuberculosis are conveyed without demur. The Brigade have no fixed charge for the conveyance of patients. The usual amount asked from people of moderate means is 2/6d., but no charge whatever is made to the poor.

The Union Infirmary and the local collieries also have ambulances, but these are not available for general use.

The public mortuaries of the city serve a very useful purpose as receiving houses for the dead awaiting final disposal, which cannot be conveniently accommodated in private dwellings, public institutions, or elsewhere. They are principally utilized for housing the bodies of persons dying from violence or other causes which bring the deaths under the official cognizance of the Coroner; but during the great war, and in times of general and fatal epidemic sickness (*e.g.* the influenza period at the end of 1918), a considerable number of bodies have been sent to the mortuaries for sanitary reasons alone. During the four years ending with 1918, the average annual number of bodies taken in was 211, as against 120 during the four-yearly period ending with 1923.

Number of Bodies, Male and Female, taken into the four Public Mortuaries of the City during each month of the years 1916—1928.

	1916		1917		1918		1919		1920		1921		1922		1923		1924		1925		1926		1927		1928	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
January ..	7	11	7	6	5	6	7	8	7	4	9	1	4	7	6	5	10	6	12	7	14	10	17	8	5	4
February ..	12	9	14	8	13	10	11	7	3	1	3	4	7	3	8	6	6	5	14	5	10	4	8	9	8	4
March ..	13	12	11	10	12	8	7	9	6	9	6	3	6	2	6	—	11	9	11	13	9	4	10	4	6	6
April ..	8	3	10	4	6	7	11	3	5	5	2	3	5	1	8	—	8	4	5	5	8	1	7	6	7	5
May ..	18	13	6	3	9	6	11	6	6	7	5	2	5	5	5	6	6	3	6	6	14	4	10	9	15	7
June ..	7	5	5	8	10	5	5	6	7	4	10	1	9	1	5	2	7	8	7	1	7	2	5	8	15	9
July ..	8	4	5	3	9	6	9	6	4	—	5	3	7	3	6	1	8	2	3	3	12	4	4	6	11	5
August ..	9	5	7	7	9	4	8	4	8	6	7	2	7	4	4	2	4	3	6	4	5	4	9	3	6	1
September	14	10	11	7	11	5	6	8	4	2	3	4	5	5	7	1	4	5	11	6	7	4	8	1	6	6
October ..	8	6	6	8	7	4	10	4	2	1	9	3	8	9	5	2	6	4	7	3	9	7	8	9	8	4
November..	7	8	10	4	21	19	4	7	11	6	11	7	5	5	8	5	9	3	6	3	6	2	14	6	4	2
December	16	15	9	10	19	23	9	7	6	8	10	1	15	6	8	4	7	6	6	7	9	2	8	9	7	6
	127	101	101	78	131	103	98	75	69	53	80	34	83	51	76	34	86	58	94	63	110	48	108	78	98	59
Totals ..	228		179		234		173		122		114		134		110		144		157		158		186		157	
Bodies prepared for inquests at General Hospital Mortuary representing fatal accidents in the City and County, upon 99% of which inquests were held at the hospital (in which Institution the deaths had actually occurred)									73 33 106		70 35 105		76 29 105		57 34 91		65 40 105		81 37 118		71 49 120		88 39 127		89 70 159	

NOTIFIABLE AND NON-NOTIFIABLE INFECTIVE AND OTHER DISEASES.

Tables of notified cases and deaths, in age-periods, distinguishing male and female cases, for each of the years 1916-1928, will be found on pp. 92 to 105 of this Report; a table giving the numbers of cases and of deaths, and the ratio of deaths to cases, for every year since compulsory notification for the several infective diseases came into force, is given on page 104a; and tables of hospital cases are given on pages 149 to 157.

Scarlet Fever varied greatly both in prevalence and fatality during the period under review. The smallest annual total of cases was 196 in 1918 (the last year of the War), and the largest, 743 in 1928. The virulence, as expressed by the ratio of deaths to cases, was highest at 1 in 38 during 1917 and lowest at 1 in 314 during 1921. Age- and sex-incidence did not vary greatly from the normal. 56% of all the cases occurred in the 5–15 age-period, and the aggregate ratio of female to male cases at all ages, was as 100 to 83. It is worthy of note, however, that the sex incidence is equal up to the end of the fifth year (the actual totals of cases for each sex at this age-period during the thirteen years, 1916-1928, were 593 and 582), a fact which seems to suggest the operation of some accidental cause, like the domestic employment of females above this age, in "washing up" and other home work (bringing them into contact with infected person and things), to explain their greater liability to attack in later age-periods. It is noteworthy, also, that this sex incidence before and after the fifth year, is equally true of diphtheria. Return cases varied more or less directly with the degree of virulence, being most numerous in those years with highest case-mortality. They fell to a minimum in 1921, 1924, and 1928.

The Dick test has not been at all systematically used, but the concentrated scarlet fever antitoxic-serum has been injected with mixed results, corresponding very generally with those recorded by J. D. Rolleston. About 50% of the cases in which it was used appeared to benefit in a marked degree from its exhibition; in the rest the result was less satisfactory. There were apparently no unfavourable results beyond sensitization to serum, and serum-sickness; but there was either much less benefit from the treatment in the "less satisfactory" group, or none at all.

Enteric Fever has already been more or less adequately dealt with under the heading of pail-closet conversion, and incidentally elsewhere. I may, however, again mention that the average annual number of cases in the last five years of the 19th century, prior to the abolition of pail-closets, was 489, and that of the deaths 73, and that the average annual cases and deaths during the five years ending with 1928, and subsequent to this epoch-making reform, were 17 and 1 respectively. I may also repeat that almost all the primary cases which have come to light in the City during the past ten years have been at the General and Children's Hospitals, and have been admitted from outside districts.

The age- and sex-incidence of the disease has been relatively uniform since 1915—75% of the cases between the 10th and 35th years, and male cases slightly preponderant.

Small-pox.—An outbreak of the mild or western type of small-pox, which is said to be endemic in the United States of America, occurred in this City and neighbourhood during 1921 and 1922; and, owing to the continual occurrence of cases in neighbouring districts,

and the consequent invasion of the city by fresh infection from time to time, it has suffered from a dropping fire of cases down to the present. The Union Infirmary at Bagthorpe and the Salvation Army Hostel in Aberdeen Street, among public institutions, were the principal centres into which this imported infection found its way. The cases here referred to must not be confounded with those, 1,130 in number, admitted to our small-pox hospital from the districts of 28 neighbouring authorities, who had either no hospital accommodation for small-pox or an amount insufficient for their needs. Our own (city) cases amounted to 397 in eight years. None was fatal, but many were severe, and troublesome complications and sequelæ—boils, eczema, ulceration of the cornea—were of frequent occurrence. There were no less than 14 cases of ulcer of the cornea in our hospital during the 8 years (1921-1928)—10 among the patients from outside and 4 in our own—, but in only one was there any serious damage to vision. Among the vaccinated patients none contracted small-pox within 20 years, and only three within 30 years of vaccination.

In 1922, when there was much discussion respecting the nature of this disease, I published a note on the subject, with an account of the cases with which we had dealt up to 5th March, 1922. This note is reproduced below. The type of disease is unchanged, and the account here given of the first 113 cases which occurred in the City may be taken as truly descriptive of all.

Small-pox in Nottingham during 1921 and 1922.

Prior to the 16th February, 1921, no case of small-pox had been recorded in Nottingham since the middle of July, 1912. The first case during 1921, that of an

unvaccinated girl, aged 20 years, had onset about the 16th February, and occurred in a good residential neighbourhood of the City. The infection was, I think, acquired in a northern town where other cases had been reported. The attack was mild, with a discrete but unmodified rash. The patient was removed forthwith to the City small-pox hospital, and there was no spread of infection at this time. A period of $13\frac{4}{7}$ weeks elapsed, after the onset in the first case, before the commencement of the next (22nd May). The source of infection in the latter was, I think, undoubtedly the Long Eaton outbreak, in progress at this time. Long Eaton is less than 7 miles south-west from Nottingham, and the communication between the two towns is free and constant. From about the middle of May, 1921, onwards, till the end of January, 1922 (a period of $8\frac{1}{2}$ months), there was an unbroken series of cases, some 113 in all, continuous alike in point of time and origin.

In this short note I shall not give a complete analysis of the cases, but only a general survey, punctuated with any items of special interest which the outbreak has furnished.

The disease displayed, as usual, a tendency to confine itself to, and to spread in, certain districts of the City and certain social or industrial strata of the community. The obvious explanation of these facts is : a first local introduction of infection, without recognition for a time, and subsequent propinquity and free communication of associated individuals in the population affected.

The prevailing type of the disease was the most remarkable feature of the outbreak. This was the " Alastrim " or " Western " type, of which we have heard

so much, and especially from American sources, in recent years; and the course of which is stated by Dr. L. M. Moody, Government Pathologist of Jamaica, and others, to be invariably benign. This statement may indeed be true, if we interpret the word "benign" in a relative sense, and compare these cases with those we knew only a few years back; but used absolutely it is misleading, and is specially liable to mislead a credulous and impressionable public. Although we had no fatalities in a series of 113 cases, we had some cases of exceptional severity. One unvaccinated woman, aged 52, for example, had a large-pocked rash, confluent on face, head, and back, and on hands and feet, high secondary fever, laryngitis and broncho-pneumonia, and barely escaped with her life. She subsequently developed numerous boils, and remained in hospital for more than three months. I wish to emphasize the fact that this case occurred in a group or series of cases of definitely attenuated strain.

This type of small-pox is apparently determined by the absence of serious toxæmia, even in cases with well-developed and general rash. But another distinctive point of special interest, probably related to this, is the possibility of successfully vaccinating many patients some days after the first appearance of (typical) rash. This I have explained by the slow development of anti-bodies in an attenuated type of the disease. The possibility of such late vaccination, however, does not exist in all cases, and in none does it continue indefinitely. In many instances where such vaccination is successfully practised, the resulting pocks become distinctly variolated.

Owing to the mildness of the attacks in many of our cases, especially those of young unvaccinated children, it was commonly reported by medical practitioners that

these children were suffering from varicella ; but a careful study of the cases, and of age-incidence in vaccinated and unvaccinated, respectively, confirmed the diagnosis of small-pox without a shadow of doubt—even when the acute stage was long past and nothing but scars and history remained. Incubation period, prodromals, onset symptoms, and rash, or the peculiar stellate scars, all pointed to small-pox—small-pox of mild type, but certainly small pox.

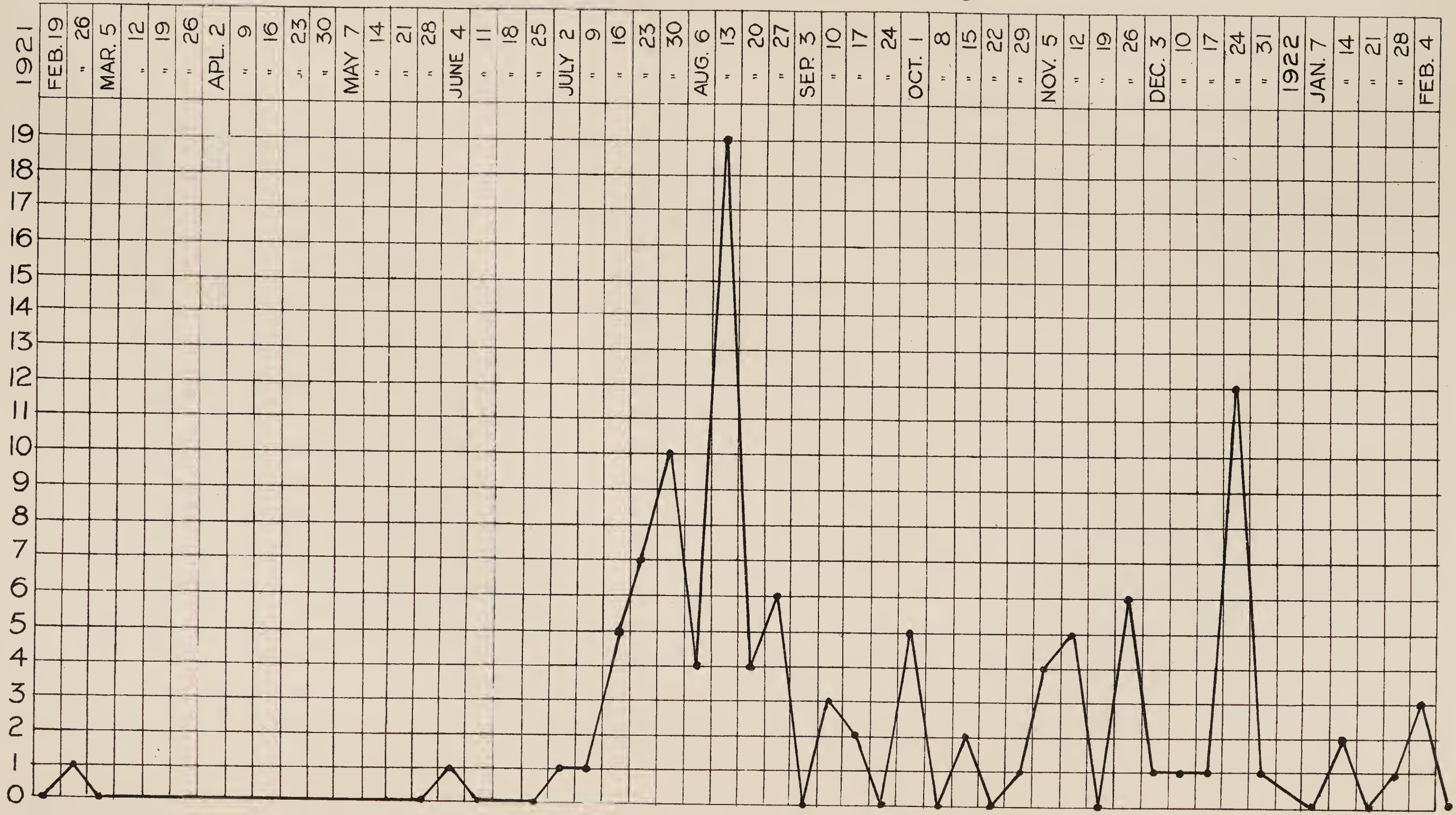
In some cases a magnifying glass has been necessary to reveal the typical features of papule, vesicle, pustule, or scar, but these features have been present and apparent when properly sought for. I have utilized the same diagnostic criteria for dealing with this outbreak as I have used for ordinary small-pox since the early eighties of the last century, and they have not failed me.

The first small-pox cases of this character which came to my notice in this country were those of seven Mormon Missionaries from Utah, who visited Nottingham in 1901. I published a note on these cases in the Lancet and British Medical Journal of the 24th July in that year. Dr. J. C. McVail refers to these cases, and to the subject of the mild or "American" type of small-pox generally, in his book, "Half a Century of Small-pox and Vaccination," published in 1919. He mentions the occurrence of this variety also in Canada, Trinidad, New South Wales, New Zealand, and other regions, as well as the United States—where it is said to be endemic.

The protection against the complaint afforded by vaccination will probably be accepted more freely than any other evidence of its variolous nature, and the table

Small-pox in Nottingham, February 1921 to January 1922.

Notifications during week ending



of cases, in age-periods, among the vaccinated and unvaccinated respectively, given at the end of this note, furnishes quite conclusive evidence of such protection. Indeed, the protection conferred by an attack of this mild small-pox against vaccination, essayed with present-day government lymph, is far less enduring than that afforded by vaccination with this lymph against the mild small-pox. The greatly extended period of protection, shown by the above-mentioned table to have been conferred by vaccination, is probably explained by the lower infectivity of an attenuated virus.

PHILIP BOOBBYER,
Medical Officer of Health.

15*th March*, 1922.

Small-pox in Nottingham,
February, 1921 to January, 1922.
Cases arranged in age-periods, distinguishing the vaccinated and the unvaccinated.

Vaccinated.						Unvaccinated.					
Under 10 years.	10–20	20–30	30–40	40–50	Over 50	Under 10	10–20	20–30	30–40	40–50	Over 50
–	–	–	9	5	7	50	25	12	2	1	2

All vaccinated persons attacked were over 30 years of age.

87 out of 92, or 94.6% of the unvaccinated persons attacked were under 30 years of age.

Upwards of one-third of the children in the City have been vaccinated. Not one of these contracted small-pox.

Vaccination (Ordinary & Emergency).—During this outbreak, upwards of 2,000 primary vaccinations and 8,000 re-vaccinations were carried out at the instance of the Health Department, at various emergency vaccination stations in the City—the principal of these being a lecture theatre lent us for the purpose in University College; and since 1921, 641 primary vaccinations, and 339 re-vaccinations have been carried out, principally by Dr. J. R. Edward, as Assistant Medical Officer of Health, but also at times by myself,* under the Public Health (Small-pox Prevention) Regulations of 1917.

In view of the recent scare created by the occurrence of encephalitis as a sequel of vaccination, I cannot, I think, do better than give the opinion of the League of Nations Small-pox and Vaccination Committee upon the subject; this Committee being certainly the most representative body of experts that have hitherto considered it in all its bearings and published their judgement upon it.

The following résumé of this judgement was given in The Times of 29th August, 1928.

LEAGUE OF NATIONS COMMITTEE AND VACCINATION.

GENEVA, August 27th, 1928.

> "The Small-pox and Vaccination Committee of the League Health Committee, which last week discussed the question of "sleepy sickness" after vaccination, has drawn up a report in which it points out the rarity of cases of post-vaccinal encephalitis, even in the countries especially affected, by contrast with the number of vaccinations.

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* 94 vaccinations have been carried out by myself personally.

The opinion of the Committee is that in the present state of knowledge it must be concluded that post-vaccinal encephalitis is a different disease from encephalitis lethargica. The conditions under which post-vaccinal encephalitis has manifested itself in Holland and in Great Britain tend to show that children between three and 13 years of age are particularly susceptible, while infancy and adult ages are almost wholly exempt. All observations point to the conclusion that the appearance of encephalitis is not connected either with particular strains of lymph or particular accidents of lymph preparation.

None of the facts leads the Committee to the conclusion that there is reason for discontinuing the use of vaccination, which remains, it says, the most powerful weapon against small-pox which we possess. In view of the circumstances associated with the occurrence of nervous complications, which are of extreme rarity, the Committee draws attention to the advantage which may result from practising primary vaccination during early infancy rather than at later ages of childhood."

And I venture to add that I entirely concur with the Committee in their judgement : two cases only of this condition have come to my knowledge in Nottingham since 1920.

Vaccination in the Parish of Nottingham. Summary of Statistics, 1883—1928.

YEARS	Births *	Percentage			Certified as Insusceptible of Vaccination	Had Small-Pox	Certificates granted to "Conscientious Objectors"
		Successfully Vaccinated	Died Unvaccinated.	Not finally accounted for			
1883–88.. ..	6194	74·3	12·4	13·0	10	..	..
1889	5398	67·3	12·0	12·1	12	..	..
1890	5084	69·8	11·7	14·0	11	..	..
1891	5033	67·1	12·0	16·0	8	..	..
1892	5142	63·8	12·0	16·2	15	..	..
1893	5193	64·4	13·4	17·7	24	..	..
1894 1st half year	2632	62·5	12·7	11·2	9	..	..
1895 do.	2758	43·1	14·2	15·3	11	..	..
1896 do.	2728	29·4	11·7	16·4	3	..	..
†1896–97.. ..	5313	18·97	15·60	52·88	3	..	..
†1897–98.. ..	5391	23·05	17·23	30·47	4	..	684
‡1898–99.. ..	5857	42·4	15·5	10·2	28	..	543
§†1899–1900 ..	6904	50·8	15·13	7·5	15	..	682
†1900–1901 ..	6699	57·83	14·73	10·7	21	..	1146
Jan. to Dec., 1901	6827	65·13	13·90	10·18	51	..	718
1902 1st half-year	3336	69·87	11·66	12·20	85	..	183
1902 entire year ..	6766	70·97	12·62	9·55	21	..	443
1903 1st half-year	3443	70·96	10·49	11·27	9	..	210
1903 2nd do.	3506	70·02	12·55	7·81	5	1	204
1904 1st half-year	3522	69·54	12·99	13·31	9	2	142
1904 2nd do.	3408	66·87	12·12	15·43	9	..	181
1905 1st half-year	3359	69·51	10·98	13·22	16	..	195
1905 2nd do.	3296	68·88	10·95	12·71	3	..	243
1906 1st half-year	3485	66·1	12·5	13·09	10	..	281
1906 2nd do.	3309	62·5	14·86	13·78	4	..	288
1907 1st half-year	3468	64·6	11·85	12·75	5	..	369
1907 2nd do.	3461	62·1	11·3	12·28	4	..	493
1908 1st half-year	3581	58·9	10·1	12·62	7	..	651
1908 2nd do.	3327	51·4	12·05	12·10	11	..	829
1909 1st half-year	3537	53·2	11·25	11·31	5	..	851
1909 2nd do.	3238	51·0	9·88	12·66	2	..	853
1910 1st half-year	3445	54·6	9·35	11·29	3	..	849
1910 2nd do.	3179	48·29	10·35	11·83	4	..	935
1911 1st half-year	3370	44·10	11·51	13·20	7	..	1044
1911 2nd do.	3002	41·20	12·79	13·05	3	..	986

† June of first year to July of second.

‡ Including Returns of Basford, Bulwell, and North Wilford for April, May, and June, 1899.

§ First Twelve Months' Return from New Parish of Nottingham.

* Nos. of births as furnished on Vaccination Returns.

Vaccination in the Parish of Nottingham. Summary of Statistics, 1883—1928.

Continued.

YEARS	Births *	Percentage			Certified as Insusceptible of Vaccination	Had Small-Pox	Certificates granted to "Conscientious Objectors"
		Successfully Vaccinated	Died Unvaccinated.	Not finally accounted for			
1912 1st half-year	3122	43·17	8·36	13·74	2	..	1082
1912 2nd do.	3139	42·05	9·05	12·74	3	..	1132
1913 1st half-year	3054	39·42	10·08	12·34	1	..	1164
1913 2nd do.	2959	37·7	9·80	11·66	1	..	1205
1914 1st half-year	3057	36·1	9·79	11·81	1	..	1292
1914 2nd do.	2987	37·7	11·65	5·42	2	..	1207
1915 1st half-year	3069	40•2	9·12	6·45	1	..	1250
1915 2nd do.	2496	37·5	7·93	8·97	1	..	1136
1916 1st half-year	2658	38·3	8·84	9·59	..	..	1148
1916 2nd do.	2481	37·5	8·54	8·75	2	..	1119
1917 1st half-year	2269	37·8	9·34	8·99	2	..	993
1917 2nd do.	1978	38·4	8·44	6·88	2	..	919
1918 1st half-year	2103	37·8	8·37	7·67	..	..	971
1918 2nd do.	2137	37·5	8·79	9·64	..	..	941
1919 1st half-year	1923	35·7	8·63	8·01	..	..	915
1919 2nd do.	2936	32·5	8·62	7·53	1	..	1505
1920 1st half-year	3859	34·5	7·15	5·78	..	..	2029
1920 2nd do.	3136	29·2	6·79	5·71	2	..	1827
1921 1st half-year	3194	36·6	8·29	4·23	3	1	1619
1921 2nd do.	2973	36·8	7·06	7·16	2	..	1454
1922 1st half-year	2911	34·5	7·94	4·02	1	..	1558
1922 2nd do.	2754	35·9	6·46	4·94	2	..	1449
1923 1st half-year	2827	37·2	7·11	3·29	1	..	1479
1923 2nd do.	3650	40·6	6·79	3·78	..	..	1781
1924 1st half-year	2669	43·4	6·6	3·7	1	..	1234
1924 2nd do.	2566	37·8	6·2	3·5	..	..	1344
1925 1st half-year	2740	38·6	6·5	4·7	1	..	1374
1925 2nd do.	2441	31·4	7·8	12·3	..	..	1183
1926 1st half-year	2510	36·5	4·9	7·7	2	..	1286
1926 2nd do.	2436	34·6	4·5	6·3	1	..	1269
1927 1st half-year	2395	37·6	6·7	3·3	3	..	1282
1927 2nd do.	2264	36·4	6·7	5·2	..	..	1172
1928 1st half-year	2417	36·9	7·4	5·8	4	..	1199
1928 2nd do.	2399	30·2	6·6	8·3	2	..	1317

* Nos. of births as furnished on Vaccination Returns.

Diphtheria.—The variation in the prevalence and fatality of diphtheria, though not so great as in the case of scarlet fever, has been very considerable during the period under review—the past 13 years. From 1916 to 1918 inclusive, when our isolation hospital was used as an auxiliary military hospital, the number of notified cases of infectious diseases in the civil population (as already stated) was relatively few. During this part of the war-period there were only 849 cases of diphtheria reported in the City, as compared with 2,519 cases in the three years ending with 1928. The average case-mortality in the above three war-years was 1 in 10.4. The smallest annual totals of notified cases were 161 in 1922 and 201 in 1926, and the largest, 927 in 1928 and 942 in 1927. The highest annual case-mortalities were, 1 in 7.4 in 1919 and 1 in 7.7 in 1920, and the lowest 1 in 21.8 in 1928, and 1 in 23.7 in 1924. The increased prevalence of diphtheria from which Nottingham has suffered during the past few years, in common with other large centres of population—notably several of the Metropolitan Boroughs—has not been associated with a corresponding increase of mortality, either actual or relative, for during the past two years, with 1869 cases, there were only 104 deaths (or 1 in 18); whereas in the two years immediately following the War (when the number of cases were also considerably above the average), with 1,212 cases there were 159 deaths (or 1 in 7.6). The variations both in the number of cases and in case-mortality, in successive years, have occurred nothwithstanding the uniform adoption of all reasonable means for preventing the spread of the disease and for averting a fatal issue. As regards prevention, cases have been notified and removed to hospital with reasonable promptitude, the throats and noses of contacts have been systematically swabbed, and carrier cases have

been isolated. As regards treatment, antitoxic serum is provided gratuitously by the Local Authority, and is available for distribution at the Isolation Hospital and the Guildhall, at all hours, on application. The public and the medical practitioners of the City, moreover, are now more or less fully alive to the necessity of its early use in all cases. Nearly one-half (47.2%) of all the cases of diphtheria notified during the period under review (1916-1928) occurred in the 5—15 years age-period (the school-age period), and the sex incidence, as stated in the scarlet fever section above, was equal up to the end of the 5th year (there were actually 568 male and 569 female cases in the 1—5 age-period); after which the female cases preponderated.

Ophthalmia Neonatorum.—This inflammatory disease of the eye in newly born infants was stated by the Report of the Royal Commission on V.D. to be due in 70% of the cases to the gonococcus (*i.e.* to gonorrhœa in the mother), and this statement is commonly repeated in text books which have appeared since 1916 (the date of the V.D. Commission's Report). The proportion of cases so derived has been found to vary considerably in this City; but during the past three years at least it has exceeded 80% at times, and this is explained by the exceptionally high prevalence of gonorrhœa. It was our practice in earlier years to send cases to the Eye Infirmary for treatment; but in 1925, after consultation with Mr. W. G. Laws, we decided to establish a clinic at the Health Department, and to put it in charge of an experienced ophthalmic nurse. This was done forthwith, and it has proved a great success. Cases of ophthalmia from whatever cause are now dealt with here at once; unless they are of a nature or at a stage to require hospital

treatment, when they are taken at once to the Eye Infirmary. Notified cases of ophthalmia neonatorum have been very few of late. There were 26 only during 1928, as compared with 105 in 1924, and an annual average of 98 for the 5 years prior to this. There has been no death from this cause since 1917, and no case of blindness since 1921. Cases of even slight impairment of vision have been remarkably few; there was one such case during 1928, but none in 1927.

OPHTHALMIA NEONATORUM.

Year.	Cases notified.	Treated.		Vision un-impaired.	Vision impaired.	Total Blind-ness.	Deaths.
		At home.	In Hospital				
1928	29	28	1	28	1	-	-
1927	49	49	—	49	—	—	—
1926	55	55	—	52	3	—	—
1925	40	40	—	37	3	—	—
1924	105	104	1	102	3	—	—
1923	100	100	—	100	—	—	—
1922	66	61	5	64	2	—	—
1921	127	126	1	123	3	1	—
1920	94	94	—	92	1	1	—
1919	102	102	—	102	—	—	—
1918	130	129	1	128	1	1	—
1917	178	178	—	176	2	—	2
1916	108	108	—	107	—	1	—

Puerperal Sepsis.—This condition occurs with discreditable frequency, and, as I have stated elsewhere, its occurrence is so often associated with premature births as to suggest the possibility of artificial interference with the pregnancy as a cause of the condition in many cases, especially in view of the fact that mothers have commonly no desire for offspring, and that conception is often the result of accident.

It is only fair to say, however, that until 1928 the annual deaths had shown no tendency to rise since 1920. In 1920 they were 14 ; for the next 7 years they averaged 4.57 per annum, ranging from 2 to 6, and in 1928 they rose to 8. In London, the annual deaths during the 5 years ending with 1928 were as follows : 99, 102, 122, 93 snd 106.

Practically all the cases are notified to the Medical Officer of Health with promptitude, and practically all, also, are removed at once from their homes to the General Hospital, the Union Infirmary, or the City Isolation Hospital, under the direction of the Chief Inspector of Midwives or one of her assistants.

Accidents of Parturition, exclusive of sepsis :—

1916—1	maternal	death	in 365	births.
1917—1	,,	,,	350	,,
1918—1	,,	,,	191	,,
1919—1	,,	,,	290	,,
1920—1	,,	,,	287	,,
1921—1	,,	,,	472	,,
1922—1	,,	,,	468	,,
1923—1	,,	,,	336	,,
1924—1	,,	,,	522	,,
1925—1	,,	,,	305	,,
1926—1	,,	,,	448	,,
1927—1	,,	,,	331	,,
1928—1	,,	,,	262	,,

Accidents of Parturition, inclusive of sepsis :—

1916—1 maternal death in 269 births.
1917—1 ,, ,, 280 ,,
1918—1 ,, ,, 145 ,,
1919—1 ,, ,, 197 ,,
1920—1 ,, ,, 182 ,,
1921—1 ,, ,, 323 ,,
1922—1 ,, ,, 312 ,,
1923—1 ,, ,, 244 ,,
1924—1 ,, ,, 373 ,,
1925—1 ,, ,, 247 ,,
1926—1 ,, ,, 329 ,,
1927—1 ,, ,, 290 ,,
1928—1 ,, ,, 181 ,,

Disease.	Year.	Cases notified.	Admitted to Hospital.	Total Deaths.	Age Group. 15–	20–	35–
Puerperal Fever.	1928	19 (2 County).	16	8 (2 midwives cases)	1	13	5
	1927	15	7	2	—	14	1
	1926	12	8	4	—	10	2
	1925	13	9	4	—	10	3
	1924	6	6	4	—	5	1
	1923	7	4	6	1	4	2
	1922	11	8	6	1	7	3
	1921	7	3	6	2	4	1
	1920	14	7	14	—	13	1
	1919	12	4	8	—	11	1
	1918	9	4	7	1	6	2
	1917	14	7	3	—	10	4
	1916	12	3	5	—	8	4
Puerperal Pyrexia.	1928	35	16	—	2	32	1
	1927	24	15	—	1	17	6
	1926	7	4	—	—	7	—

Tuberculosis.—I have already referred to the declining prevalence of tuberculous diseases, as measured by the deaths attributed to them—the only satisfactory criterion—, and also to their temporary increase at certain ages during the war-period, in the sanatorium section of the report, but I shall now deal with the subject in more detail. The average death-rate from all forms of tuberculosis in Nottingham fell between the five years ending with 1860 and the corresponding period ending with 1,900 by upwards of 40 per cent. and a like reduction took place between this last period and the quinquennium ending with 1928. The corresponding figures for the country as a whole show a like reduction, except that the proportional fall for the second term of years, in the country's case, has been even greater than our own.

There is nothing which shows the shrinkage of the tuberculosis mortality more strikingly than the fact that this is now (1928) only 8.5% of the whole mortality from all causes, as compared with an average 10—11 per cent. a few years back (when there was a far larger number of total deaths).

It is interesting to note that the average increase of mortality from tuberculous diseases during the war, to which I have referred above, was almost identical in Nottingham and the country at large. The explanation of the extraordinary subsequent decrease in the death-rates from these diseases, too, is almost necessarily the same in both cases, viz., the substitution of peace, plenty, improved sanitation and housing accommodation, and, last but not least, an altered psychic state, for the conditions incidental to the war-period.

In a report on the Tuberculosis Problem which I furnished to the City Council on 22nd May, 1920 (page 8), which is reproduced in the appendix of this Summary, the following paragraph appears, dealing with the age and sex and occupation of the persons affected by the increase during the period of the War; the paragraph speaks for itself:

"These figures (in table appended) show that the general mortality from tuberculosis, both locally and in the country at large, increased during the years of the War as compared with the low rates of 1912-14; but, if we examine the mortality of age-periods, we find that the increase, which affected both sexes, was confined in both to the 5-45 years age-period; there was no advance in the death-rate of young children or of adults above the 45th year. The largest augmentation was among women in the working period of life, and this is probably to be explained principally by the extensive industrial employment of women in place of men. The increase among children of school age was probably due in great measure to dietetic causes—lack of fats and other suitable food."

It is noticeable that deaths from phthisis, or tuberculosis of the lungs, now constitute a somewhat larger proportion of the total number of deaths from tuberculosis than formerly. For example, during the 5 years, 1916-1920, the deaths from phthisis amounted to the following annual percentages of all the deaths from tuberculosis; viz., 74.4, 73.0, 72.4, 79.4, and 75.7; whereas during the five years ending with 1928, the annual percentages were, 82.6, 85.5, 79.1, 83.0 and 86.6. The average of the first series is 74.9 and, of the second, 84.3. The corresponding average proportion twenty years ago was about 75 per cent.

Erysipelas.—The notification of erysipelas is not a very satisfactory guide to its prevalence. Almost any inflammatory or erythematous condition of the skin is liable to be certified as erysipelas; but, even when a correct diagnosis is made by the medical attendant, it is not always possible to secure the isolation of the case either at home or hospital. A considerable number of cases—from 10 to 20 on an average—nevertheless, are sent every year to the city isolation hospital or the union infirmary. The deaths certified as due to the disease are probably a better guide to the number of actual cases which occur; and these, unfortunately, have shown a slight tendency to increase in recent years. The average annual number of certified deaths during the 5 years ending with 1928 was 5.4; during the 5 years ending with 1923, 4.6; and during the immediately preceding 5 years 4.4. In view of the slight recent increase in the number of deaths from puerperal sepsis, and the infective possibilities involved, it is well to bear this fact in mind. Also, we must not forget that there is the same causative suggestion about the increase of pemphigus neonatorum during the past 3 years, as this disease of the skin in newly born infants is due to infection with an organism capable of giving rise to puerperal sepsis.

Influenza.—The influenza epidemic of 1918-1919, both in virulence and infectivity, was the most terrible epidemic visitation from which we have suffered since the commencement of civil registration. The health-visitors of the Department, who volunteered for special nursing service during the outbreak, had an experience they will never forget. Annesley House (No. 95 Queen's Walk), which till the end of October had been used as a War Crèche, was at once fitted up as an emergency influenza hospital, and

speedily filled with stranded patients in all stages of the disease, and in all conditions—many delirious and dying—more than one being the sole survivor of his or her family. Visitors to the hospital were often horrified by the glimpses they got, perhaps through the windows, of the literally dark-blue (cyanosed) faces of patients in the last stage of influenzal pneumonia. All the hospitals of the City were united, at this time, in the good work of succouring the people in their unexampled distress.

The epidemic in Nottingham began about the fourth week of October, during which the deaths attributed to influenza were nine in number, and the general death-rate per 1,000 per annum, 17.2. From this week onwards till the end of the year, the numbers of such deaths and the general death-rates were as follows :— 46 and 26.9 ; 123 and 49.1 ; 198 and 68.7 ; 203 and 74.6 ; 272 and 100.2 ; 162 and 65.6 ; 53 and 29.9 ; 20 and 18.3 ; and 7 and 17.0. At the end of the year there was an intermission till the week ending 1st February, when there was one death from influenza and the general death-rate was 17.6 ; and in consecutive weeks till the 29th March, the influenza deaths and general death-rates were as follows :—2 and 19.2 ; 7 and 30.2 ; 37 and 35.4 ; 47 and 32.6 ; 45 and 35.7 ; 23 and 21.4 ; 23 and 23.3 ; and 6 and 21.1. Here the outbreak came to an end.

I have said nothing of the rise and fall of the bronchitis and pneumonia deaths synchronizing with these figures, but they will be found in the accompanying table. The total number of deaths actually certified as due to influenza during the outbreak was 1,284 only ; but, by the addition of those above the average ascribed to bronchitis and pneumonia during the period of the

outbreak, we obtain a gross total of 1,534 deaths as having been directly and indirectly caused by it. This number is equal to a death-rate for the full year of 5.8 per 1,000 of population; a figure without parallel in modern times, except for the rates of a few other industrial communities during the same pandemic visitation.

In Nottingham 62 per cent. of the victims were female, as compared with 52 per cent. in the country as a whole. This local preponderance of female deaths is probably explained by the fact that about 40,000 men had been called up for War work, and that women (from outside districts) had to a large extent replaced them. This supposition is borne out by the fact, that of 444 deaths of persons between 20 and 45 years of age, to which age-period most of these substitute women would belong, all but 129 (or 71 per cent.) were those of women. The fatality of the 1918-1919 outbreak differed greatly, not only in total amount, but also in relative incidence upon age-periods, from that of 1889-1891. In the earlier outbreak there was only a very low relative mortality before the 55th year, and more than one-half of all the deaths occurred after this period; in that of 1918-1919 more than half of all the deaths occurred between the 20th and 55th years, and relatively few afterwards; there was a heavy mortality of infancy and childhood in this last outbreak.

The Registrar-General in his annual report gives the aggregate number of deaths due to the 1918 influenza epidemic, in England and Wales, as upwards of 140,000, 112,329 being actually certified. Of these 112,329 deaths, 53,883 were of males, and 58,446 of females. The elimination of 7,591 deaths of naval and military men,

brings the total ultimately to 104,738 (civilian persons). This last total is equal to a death-rate, per 1,000 of the total civil population of England and Wales, of 3.13, as compared with one of 5.8 for Nottingham. This rate again (with certain other similar rates elsewhere during the same outbreak) is without parallel in this country since the commencement of civil registration, or in any other civilized country in modern times. The only relatively modern epidemic death-rate which approaches it in magnitude is that of the cholera epidemic of 1849 (3.03 per 1,000 per annum) ; and we have to turn to the pages of J. F. C. Hecker's "Epidemics of the Middle Ages" for comparable fatality from epidemic visitations. The suggestion, however, by A. Edelmann, that the disease of 1918 was the " black death " of the Middle Ages again, is obviously inadmissible.

The tables which accompany this section give in detail the figures of the 1918-1919 outbreak to which I have referred above.

Influenza has recurred since 1918-1919, and, notably, in 1921 with 75 deaths, in 1924 with 134 deaths, in 1925 with 65 deaths, and in 1927 with 187 deaths ; but the virulence, even in 1927, was little above the average of other influenza years, and there was no recurrence of the sinister type of pneumonia which characterized the 1918 outbreak, although the deaths ascribed to bronchitis and pneumonia were considerably above the average in all these years—in 1927 more than 30 per cent. above it. At several places on the Continent, too, of which Berlin was the most important, during the 1927 outbreak, many cases of grave toxæmia were reported to have occurred, and much broncho-pneumonia.

INFLUENZA EPIDEMIC, 1918-1919.

Week ending	Deaths From			General death-rate (per 1,000 per annum).
	Influenza.	Bronchitis.	Pneumonia.	
1928.				
October 5th ..	—	3	4	9·5
„ 12th ..	—	3	4	12·1
„ 19th ..	—	3	5	13·0
„ 26th ..	9	5	11	17·2
November 2nd	46	7	14	26·9
„ 9th	123	13	23	49·1
„ 16th	198	21	29	68·7
„ 23rd	203	28	44	74·6
„ 30th	272	44	71	100·2
December 7th	162	27	36	65·6
„ 14th	53	12	15	29·9
„ 21st	20	7	6	18·3
„ 28th	7	9	5	17·0
1919.				
February 1st ..	1	9	7	17·6
„ 8th	2	17	11	19·2
„ 15th	7	20	21	30·2
„ 22nd..	37	33	28	35·4
March, 1st ..	47	26	22	32·6
„ 8th ..	45	28	21	35·7
„ 15th ..	23	13	8	21·4
„ 22nd ..	23	17	14	23·3
„ 29th ..	6	23	9	21·1

INFLUENZA EMIDEMIC 1918.

Age-periods in years.	0–		1–		2–		5–		10–		15–		20–		25–		35–		45–		55–		65–		75–		85		Totals.		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M.	F.	T't'l
Deaths from Epidemic Influenza ..	10	9	23	27	54	61	33	47	10	42	24	35	11	74	74	172	44	69	77	59	33	38	27	49	2	13	1	–	423	695	1118
Bronchitis ..	14	18	3	5	5	–	1	–	–	–	–	1	–	–	3	4	8	4	25	8	44	26	57	65	28	38	6	9	194	178	372
Pneumonia	40	47	28	45	52	37	8	15	7	9	7	9	10	15	11	42	22	19	27	12	34	28	28	24	14	7	3	3	291	302	593

Cerebro-spinal Fever has still been in evidence to a small extent, with an annual average of four deaths during the past 13 years. Most of the cases find their way to the wards of the General Hospital, but the physicians in charge complain that reliable sera have not been obtainable since the War-period.

Measles has apparently occasioned some 367 deaths during the past ten years, giving an annual average of 36.7, with three distinctly epidemic years. During the immediately preceding decennium there were 868 deaths, extending into 8 years, with an annual average of 86.8. The deaths in the first decennium were more than 57 per cent., therefore, above those in the second.

There has been a like decline in England and Wales as a whole, and in the great towns taken together, but during the past five years there has been comparatively little deviation from the average annual measles death-rates for each, viz., 0.11 and 0.15 per 1,000 respectively. The fluctuations in London have been much more pronounced—the death-rates ranging from 0.04 per 1,000 to 0.30 per 1,000.

During recent years it has been our practice to admit cases occurring in overcrowded, or otherwise unsuitable, homes or other places, to the wards of the isolation hospital. The numbers admitted during each of the past thirteen years have been as follows :—1916, 73 ; 1917, 32 ; 1918, 10 ; 1919, 18 ; 1920, 42 ; 1921, 1 ; 1922, 26 ; 1923, 8 ; 1924, 3 ; 1925, 42 ; 1926, 19 ; 1927, 5 ; 1928, 1.

With a declining birth-rate the measles cases and deaths would naturally diminish, through lack of

susceptible human material for the disease to infect ; but the diminution is greater than can be accounted for by this cause. It is also to be noticed that the recurrence periodicity of the epidemic peak years (ordinarily upwards of two years) is less regular than formerly.

It is difficult, in the absence of compulsory notification, to form a reliable estimate of the case-mortality, and thus gauge the degree of severity of the prevailing type ; but, so far as I can gather from incomplete data at the present time, the general case-mortality in this district is relatively low, and the frequency of intestinal and pulmonary complications (diarrhœa and pneumonia) well below the average. During the years 1916-1919, for which measles was made notifiable by the Ministry of Health, the case-mortality ranged from 1.8% (1919) to 2.7% (1916 and 1918) and 5% (1917). The lowest case-mortality thus occurred in the last year of the four, when the smallest number of cases was notified, and the highest in the second year, when the epidemic was still in the rising stage. It is worthy of note that, whereas upwards of 93 and 94 per cent., respectively, of all the deaths occurred below the fifth year of age during the first two years of this time when the yearly numbers of notified cases were over 2,000, only 87 per cent. and 73 per cent. were below this age in the two later years when cases and mortality were both rapidly diminishing.

MEASLES.

No. of Cases admitted to City Isolation Hospital, 1916-1928.

	Males.	Females.
1916	66 (chiefly soldiers).	.. 7
1917	14 do.	.. 18 (chiefly nurses)
1918	5	.. 5
1919	11	.. 7
1920	16	.. 26
1921	1	.. –
1922	14	.. 12
1923	6	.. 2
1924	2	.. 1
1925	21	.. 21
1926	8	.. 11
1927	3	.. 2
1928	–	.. 1
	167	.. 112

Encephalitis Lethargica.—It is difficult to write a short descriptive note of this terrible disease, now known on account of its more common manifestations by the above name, because of the variations apparent in its clinical and pathological features, through difference in the part or parts of the central nervous system affected. One fact concerning it is reasonably certain, as pointed out by Crookshank in America; it has been present, though not perhaps during the recent past, in epidemic form for centuries, under various names, it may be, probably as a complication of other disorders such as epidemic influenza. The one new thing about it now is its recognition as a separate entity. So far as modern times are concerned, it was first reported as a specific disease in Vienna during 1917; and, during 1918, the first case to be diagnosed in this country was described by Dr. Arthur J. Hall, of Sheffield.

Unfortunately, we have at present no reliable specific remedy for encephalitis lethargica, though all are looking for an anti-serum, the early administration of which shall serve to prevent the irreparable organic injury at present caused by the disease in a large proportion of cases. French, German and American physicians, indeed, claim to have prepared a serum from persons convalescent after epidemic encephalitis, which has been used, they say, with success upon patients in various stages of the disease; but we have no satisfactory confirmation of these claims.

Officers of the Health Department are often called upon to give advice concerning the institutional treatment available at all ages, and at all stages of the disease; but especially for cases in childhood and adolescence which have reached that "post encephalitic condition" in which moral perversion commonly takes the form either of uncontrollable impulse to acts of injurious violence, the use of profane or filthy language and the like, or of cunning criminality and deceit. Either connotes organic change in the brain which no treatment or training can remedy.

I have attended conferences (at Sheffield and elsewhere) convened to consider the treatment of encephalitis victims at all ages, but especially of those just mentioned; and, although some people of weight and experience are inclined to be hopeful of success for such treatment, the majority are not so inclined, and are disposed to think that permanent segregation is the only reasonable treatment for these unfortunates, alike in their own interests and those of the community at large. It is a curious fact that, with the striking departure from the normal (both morally and intellectually) apparent in a

large proportion of post-encephalitic victims at all ages, only relatively few of them have found their way, by certification, to Mental Hospitals. One may remark in passing that the situation is absurd. People with obviously irresistible criminal impulses should be certifiable.

In the circumstances here detailed, when asked for advice concerning institutional treatment for this complaint, we have recommended the General Hospital for acute cases in the early stages, and the Union Infirmary for chronic cases in the "post-encephalitic" state. Most of the cases, indeed, in the latter category, which have occurred in poor local families of late, have ultimately found their way to the Union Infirmary, probably because more suitable accommodation was to be found for them in this institution than elsewhere; and, as I understand that the Poor Law Authorities are still prepared to receive and to deal with them, as we have no special asylum for them (like that, for example, of the Metropolitan Asylums Board at the Northern Hospital, Winchmore Hill), I am inclined to think that the Union Infirmary should be regarded as their more or less permanent home.

The disease, first separately described in modern times by von Economo, of Vienna, was made compulsorily notifiable in this Country on 1st January, 1919; and the annual number of reputed and notified cases and deaths, respectively, from this time onwards to the close of 1928, in Nottingham, have been as follows: 0 and 3, 6 and 5, 3 and 2, 4 and 1, 4 and 1, 25 and 10, 11 and 8, 18 and 9, 8 and 7, and 3 and 2.

The year of maximum recent prevalence in Nottingham, in Sheffield (the special storm-centre of the disease),

and in England and Wales, was 1924. The reputed cases in England and Wales during the first year of notification, 1919, were 541, and during 1924, 5,039 ; after which they fell away to less than half (2,267) in 1926.

As regards the sex-incidence, males suffer usually rather more than females ; from 55 to 60% of all the patients being males. The age-incidence is extremely irregular.

Encephalitis Lethargica.

	Notified Cases.	Removed to Hospital.			Treated at Home.	Re-covered.	Died.
		Work-house.	Isolation Hospital.	General Hospital			
1922	4	—	—	3	1	3	1
1923	5	—	1	4	—	4	1
1924	33	—	1	30	2	23	10 (2 home). (8 hospital)
1925	14	2	—	10	2	6	8 (2 home) (6 hospital)
1926	27	6	—	11	10	18	9 (3 home) (6 hospital)
1927	6	3	—	2	1	5	1 (hospital)
1928	3	2	—	—	1	2	1 (home)

Epidemic Diarrhœa.—The decline in the annual number of deaths attributed to epidemic diarrhœa, as already noticed elsewhere, has been very striking during the thirty years ending with 1928 ; this decline, marching with the improvement of public scavenging, reached its lowest point with the conversion of the old pail-closet system to one of water-carriage. But it must be remembered, in giving credit where due for this con-

summation, that it synchronizes also with the establishment, growth, and development of our maternity-and-child-welfare scheme; the influence of which for good, among the poor, in many directions, it is difficult to overrate. If we take the average annual deaths in six five-yearly periods, from and including the period ending with 1903, we obtain the following striking series :—341, 249, 200, 134, 81, and 71. The average annual deaths from this cause, therefore, at the present time, are little more than one-fifth of those at the close of the last century, when the first of the above-mentioned improvements was seriously begun.

Relationship with School Medical Department.

The closest possible reciprocity exists between the School Medical Inspection Department and the Infectious Diseases Section of the Health Department, in respect of notification, school closure, exclusion from school, and the like, and special forms are in daily use by the officers of both for conveying information, requests, and requirements.

1916.

NOTIFIABLE INFECTIOUS DISEASES.

Notified Cases and Deaths in Age-periods, distinguishing Male and Female Cases.

			0–1 year.	1–5 years.	5–15 years.	15–25 years.	25–35 years.	35–45 years.	45–55 years.	55–65 years.	65–75 years.	Over 75 yrs.	Total.	
Measles	*Notified Cases*	M.	55	430	478	66	17	7	..	..	..	..	1053	2237
		F.	58	461	502	111	36	14	2	..	..	..	1184	
	Certified Deaths	M.	8	20	3	..	..	..	..	..	..	..	31	60
		F.	5	23	1	..	..	..	..	..	..	..	29	
Scarlet Fever	*Notified Cases*	M.	1	31	104	23	4	3	..	..	..	..	166	438
		F.	1	35	167	43	19	4	2	..	1	..	272	
	Certified Deaths	M.	..	1	..	2	..	..	..	..	..	..	3	5
		F.	..	2	..	..	..	..	..	..	..	..	2	
Diphtheria	*Notified Cases*	M.	2	23	37	22	6	2	2	..	..	..	94	201
		F.	..	16	61	14	10	4	1	1	..	..	107	
	Certified Deaths	M.	..	5	4	..	..	..	..	..	..	..	9	16
		F.	..	4	2	1	..	..	..	..	..	..	7	
Enteric Fever	*Notified Cases*	M.	..	1	12	6	6	5	..	..	3	..	33	58
		F.	..	..	3	14	3	2	2	1	..	..	25	
	Certified Deaths	M.	..	..	..	..	1	1	..	..	1	..	3	8
		F.	..	..	1	2	..	1	1	..	..	..	5	
Erysipelas	*Notified Cases*	M.	4	2	4	10	2	12	19	13	4	2	72	208
		F.	4	3	6	13	18	27	30	18	8	9	136	
	Certified Deaths	M.	..	..	1	..	..	..	..	..	..	1	2	6
		F.	3	..	1	..	..	..	..	..	..	..	4	
Puerperal Sepsis	*Notified Cases*	F.	..	..	..	4	4	4	..	..	..	..	12	
	Certified Deaths	F.	..	..	..	1	3	1	..	..	..	..	5	
Pulmonary Phthisis	*Notified Cases*	M.	2	4	11	37	53	64	39	22	2	1	235	438
		F.	2	3	14	61	51	37	18	14	2	1	203	
	Certified Deaths	M.	2	1	5	19	30	53	41	21	4	1	177	311
		F.	1	2	6	35	33	28	16	9	4	..	134	
Other Tuberculous Diseases	*Notified Cases*	M.	7	15	25	9	2	3	1	3	1	..	66	147
		F.	5	15	32	18	2	5	3	1	..	..	81	
	Certified Deaths	M.	7	16	16	3	2	2	..	2	1	..	49	108
		F.	5	13	18	11	3	4	3	2	..	..	59	
Cerebro-spinal Fever	*Notified Cases*	M.	..	2	..	..	..	..	..	..	..	..	2	5
		F.	..	1	1	1	..	..	..	..	..	..	3	
	Certified Deaths	M.	..	2	..	..	..	..	..	..	..	..	2	4
		F.	..	1	..	1	..	..	..	..	..	..	2	

Other Notifiable Disease—Ophthalmia Neonatorum, 108 cases, 58 M., 50 F., all under 1.

1917.

NOTIFIABLE INFECTIOUS DISEASES.

Notified Cases and Deaths in Age-periods, distinguishing Male and Female Cases.

			0–1 year.	1–5 years.	5–15 years.	15–25 years.	25–35 years.	35–45 years.	45–55 years.	55–65 years.	65–75 years.	Over 75 yrs.	Total.	
Measles ..	*Notified Cases* ..	M.	49	560	413	21	2	1	..	..	..	..	1046	2141
		F.	47	534	464	34	13	3	..	..	..	..	1095	
	Certified Deaths	M.	13	32	2	..	..	..	..	..	..	..	47	105
		F.	5	49	4	..	..	..	..	..	..	..	58	
Scarlet Fever ..	*Notified Cases* ..	M.	2	12	74	6	1	..	..	..	..	..	95	230
		F.	1	26	81	16	8	2	1	..	..	..	135	
	Certified Deaths	M.	..	3	2	..	..	..	..	..	..	..	5	6
		F.	..	..	1	..	..	..	..	..	..	..	1	
Diphtheria ..	*Notified Cases* ..	M.	..	26	50	20	10	2	..	1	..	..	109	262
		F.	1	18	84	30	5	12	1	2	..	..	153	
	Certified Deaths	M.	..	4	3	..	..	..	..	..	..	..	7	18
		F.	..	4	7	..	..	..	..	..	..	..	11	
Enteric Fever ..	*Notified Cases* ..	M.	..	2	3	3	1	1	..	1	..	..	11	29
		F.	..	1	1	8	4	1	1	2	..	..	18	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	1	..	1	2
		F.	..	..	..	1	..	..	..	..	..	..	1	
Erysipelas ..	*Notified Cases* ..	M.	..	1	1	3	4	7	13	6	3	7	45	130
		F.	..	3	3	16	14	14	18	10	4	3	85	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	2
		F.	..	..	..	..	..	..	1	..	..	1	2	
Puerperal Sepsis ..	*Notified Cases* ..	F.	..	..	..	4	7	3	..	..	..	..	14	
	Certified Deaths	F.	..	..	..	2	..	1	..	..	..	..	3	
Pulmonary Phthisis ..	*Notified Cases* ..	M.	3	4	9	37	59	64	46	23	7	..	252	462
		F.	3	7	18	63	56	30	20	8	5	..	210	
	Certified Deaths	M.	2	2	5	22	26	37	36	22	7	1	160	324
		F.	2	6	9	47	44	24	20	8	2	2	164	
Other Tuberculous Diseases	*Notified Cases* ..	M.	13	15	13	8	1	5	1	1	..	..	57	115
		F.	8	10	18	15	2	1	3	1	..	..	58	
	Certified Deaths	M.	17	15	5	5	1	1	2	1	..	..	47	91
		F.	9	11	9	10	2	..	2	1	..	..	44	
Cerebro-Spinal Fever ..	*Notified Cases* ..	M.	..	..	3	2	..	1	..	..	..	..	6	12
		F.	..	..	2	..	..	4	..	..	..	..	6	
	Certified Deaths	M.	..	1	2	..	..	1	..	..	..	..	4	5
		F.	..	..	..	..	..	1	..	..	..	..	1	

Other Notifiable Disease—Ophthalmia Neonatorum, 178 cases, 99 M., 79 F., all under 1.

1918.

NOTIFIABLE INFECTIOUS DISEASES.

Notified Cases and Deaths in Age-periods, distinguishing Male and Female Cases.

			0–1 year.	1–5 years.	5–15 years.	15–25 years.	25–35 years.	35–45 years.	45–55 years.	55–65 years.	65–75 years.	Over 75 yrs.	Total.	
Measles ..	*Notified Cases* ..	M.	27	250	271	5	..	..	..	..	..	..	553	1171
		F.	23	272	288	25	7	3	..	..	..	..	618	
	Certified Deaths	M.	4	13	2	..	..	..	..	..	..	..	19	31
		F.	..	10	1	1	..	..	..	..	..	..	12	
Scarlet Fever ..	*Notified Cases* ..	M.	1	12	61	7	..	3	..	..	..	..	84	196
		F.	2	14	67	17	8	4	..	..	..	..	112	
	Certified Deaths	M.	..	1	..	..	..	..	..	..	..	..	1	3
		F.	1	1	..	..	..	..	..	..	..	..	2	
Diphtheria ..	*Notified Cases* ..	M.	2	36	91	18	4	4	..	..	..	..	155	386
		F.	2	35	134	38	14	7	1	..	..	..	231	
	Certified Deaths	M.	..	11	5	1	..	..	..	..	..	..	17	48
		F.	..	13	18	..	..	..	..	..	..	..	31	
Enteric Fever ..	*Notified Cases* ..	M.	..	..	3	1	..	..	1	..	1	..	6	15
		F.	..	..	3	1	2	2	1	..	..	..	9	
	Certified Deaths	M.	..	..	..	..	..	..	1	..	1	..	2	5
		F.	..	..	..	..	1	..	1	1	..	..	3	
Erysipelas ..	*Notified Cases* ..	M.	..	2	1	3	2	9	7	5	8	2	39	111
		F.	..	2	2	16	9	8	13	11	7	4	72	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	1	..	1	2
		F.	..	..	..	..	..	..	..	..	..	1	1	
Puerperal Sepsis ..	*Notified Cases* ..	F.	..	..	..	3	4	2	..	..	..	..	9	
	Certified Deaths	F.	..	..	..	1	4	2	..	..	..	..	7	
Pulmonary Phthisis ..	*Notified Cases* ..	M.	3	7	11	46	57	59	52	14	7	..	256	489
		F.	1	5	25	66	58	38	24	11	5	..	233	
	Certified Deaths	M.	1	5	2	19	33	39	41	14	5	2	161	311
		F.	1	2	15	34	33	37	21	5	2	..	150	
Other Tuberculous Diseases	*Notified Cases* ..	M.	9	20	13	8	7	1	3	2	1	..	64	138
		F.	3	14	21	9	11	6	4	5	1	..	74	
	Certified Deaths	M.	11	17	9	7	5	1	5	1	1	..	57	124
		F.	3	16	18	6	7	5	4	5	3	..	67	
Cerebro-Spinal Fever ..	*Notified Cases* ..	M.	..	..	2	..	..	1	..	..	..	..	3	12
		F.	3	..	1	1	1	2	1	..	..	..	9	
	Certified Deaths	M.	..	..	1	..	..	1	..	..	..	..	2	6
		F.	2	..	1	1	..	..	..	..	..	..	4	

Other Notifiable Disease—Ophthalmia Neonatorum, 130 cases, 76 M., 54 F., all under 1.

1919.

NOTIFIABLE INFECTIOUS DISEASES.

Notified Cases and Deaths in Age-periods, distinguishing Male and Female Cases.

			0–1 year.	1–5 years.	5–15 years.	15–25 years.	25–35 years.	35–45 years.	45–55 years.	55–65 years.	65–75 years.	Over 75 yrs.	Total.	
Measles	*Notified Cases*	M.	5	66	210	8	3	2	..	..	..	..	294	620
		F.	9	84	205	19	6	3	..	..	..	..	326	
	Certified Deaths	M.	1	4	3	..	..	..	..	..	..	..	8	11
		F.	..	3	..	..	..	..	..	..	..	..	3	
Scarlet Fever	*Notified Cases*	M.	2	35	121	33	4	6	1	..	..	..	202	465
		F.	1	29	168	50	12	3	..	..	..	..	263	
	Certified Deaths	M.	..	2	..	..	..	..	..	..	..	..	2	9
		F.	..	..	5	2	..	..	..	..	..	..	7	
Diphtheria	*Notified Cases*	M.	3	41	115	20	4	..	..	1	..	..	184	492
		F.	3	40	206	37	14	4	3	1	..	..	308	
	Certified Deaths	M.	..	8	21	1	..	..	..	..	..	..	30	66
		F.	1	11	23	1	..	..	..	..	..	..	36	
Enteric Fever	*Notified Cases*	M.	..	..	1	1	2	2	1	..	..	..	7	11
		F.	..	..	1	1	1	..	1	..	..	..	4	
	Certified Deaths	M.	..	..	..	1	..	1	..	..	..	..	2	2
		F.	..	..	..	..	..	..	..	..	..	..	..	
Erysipelas	*Notified Cases*	M.	..	..	4	3	3	12	10	11	10	2	55	136
		F.	..	2	4	12	15	11	19	12	5	1	81	
	Certified Deaths	M.	..	..	..	..	..	..	..	1	1	1	3	4
		F.	..	..	..	..	..	..	..	..	..	1	1	
Puerperal Sepsis	*Notified Cases*	F.	..	..	..	2	9	..	1	..	..	..	12	
	Certified Deaths	F.	..	..	..	1	5	1	1	..	..	..	8	
Pulmonary Phthisis	*Notified Cases*	M.	2	5	35	54	46	48	53	22	5	..	270	528
		F.	2	6	24	63	67	48	26	14	8	..	258	
	Certified Deaths	M.	1	4	5	18	20	36	40	19	5	..	148	315
		F.	2	2	10	36	43	31	21	14	8	..	167	
Other Tuberculous Diseases	*Notified Cases*	M.	5	12	16	7	4	2	4	3	..	..	53	118
		F.	6	8	21	11	3	3	7	3	3	..	65	
	Certified Deaths	M.	5	12	11	5	1	2	4	3	..	..	43	89
		F.	6	8	11	6	1	2	7	2	3	..	46	
Cerebro-Spinal Fever	*Notified Cases*	M.	2	..	..	..	..	..	1	..	..	..	3	7
		F.	1	1	1	..	1	..	..	..	..	..	4	
	Certified Deaths	M.	1	..	1	..	..	..	1	..	..	..	3	6
		F.	1	..	..	1	..	..	..	1	..	..	3	
Pneumonia	*Notified Cases*	M.	3	10	12	9	11	15	8	6	4	5	83	162
		F.	1	8	18	6	10	10	10	4	8	4	79	
	Certified Deaths	M.	41	30	10	5	6	8	16	24	24	9	173	358
		F.	40	40	10	7	7	7	16	19	21	18	185	

OTHER NOTIFIABLE DISEASE—Ophthalmia Neonatorum, 102 cases, 55 M., 47 F., all under 1.

1920.

NOTIFIABLE INFECTIOUS DISEASES.

Notified Cases and Deaths in Age-periods, distinguishing Male and Female Cases.

			0–1 year.	1–5 years.	5–15 years.	15–25 years.	25–35 years.	35–45 years.	45–55 years.	55–65 years.	65–75 years.	Over 75 yrs.	Total.	
Scarlet Fever ..	*Notified Cases* ..	M.	6	41	190	22	10	3	..	..	..	..	272	618
		F.	1	41	232	53	15	4	..	..	..	..	346	
	Certified Deaths	M.	1	5	..	..	..	..	..	..	..	..	6	9
		F.	..	2	1	..	..	..	..	..	..	..	3	
Diphtheria ..	*Notified Cases* ..	M.	2	52	208	31	12	2	3	..	..	..	310	720
		F.	1	63	245	56	28	9	4	4	..	..	410	
	Certified Deaths	M.	1	11	27	2	..	..	..	..	..	..	41	93
		F.	..	18	30	2	1	..	..	1	..	..	52	
Enteric Fever ..	*Notified Cases* ..	M.	..	..	1	4	1	1	..	..	1	..	8	14
		F.	..	1	1	1	2	1	..	..	..	..	6	
	Certified Deaths	M.	..	..	..	..	..	1	..	..	1	..	2	2
		F.	..	..	..	..	..	..	..	..	..	..	..	
Erysipelas ..	*Notified Cases* ..	M.	1	2	1	6	1	12	9	13	13	3	61	137
		F.	1	1	4	13	15	10	12	12	5	3	76	
	Certified Deaths	M.	..	..	..	1	..	1	..	1	2	..	5	5
		F.	..	..	..	..	..	..	..	..	..	..	..	
Puerperal Sepsis ..	*Notified Cases* ..	F.	..	..	..	4	8	2	..	..	..	..	14	
	Certified Deaths	F.	..	..	..	1	11	2	..	..	..	..	14	
Pulmonary Phthisis ..	*Notified Cases* ..	M.	4	4	29	65	66	50	39	24	6	..	287	534
		F.	1	5	25	82	56	43	19	12	4	..	247	
	Certified Deaths	M.	3	3	3	20	21	29	20	18	3	..	120	227
		F.	..	2	1	29	28	24	10	11	2	..	107	
Other Tuberculous Diseases	*Notified Cases* ..	M.	11	6	12	11	2	..	1	..	1	..	44	85
		F.	4	6	9	13	3	1	2	1	2	..	41	
	Certified Deaths	M.	13	5	9	5	2	2	3	..	1	..	40	74
		F.	6	6	5	8	1	2	3	2	1	..	34	
Cerebro-spinal Fever ..	*Notified Cases* ..	M.	1	2	3	..	..	1	..	..	..	..	7	11
		F.	..	..	2	1	..	1	..	..	..	..	4	
	Certified Deaths	M.	1	1	2	1	..	2	..	..	..	..	7	11
		F.	..	..	1	2	..	1	..	..	..	..	4	
Pneumonia ..	*Notified Cases* ..	M.	5	14	12	10	8	8	7	3	2	..	69	124
		F.	2	8	5	8	8	11	5	3	3	2	55	
	Certified Deaths	M.	57	39	6	4	9	12	16	18	15	13	189	340
		F.	45	44	6	4	6	5	6	12	14	9	151	

Other Notifiable Disease—Ophthalmia Neonatorum, 94 cases, 50 M., 44 F., all under 1.

1921.

NOTIFIABLE INFECTIOUS DISEASES.

Notified Cases and Deaths in Age-periods, distinguishing Male and Female Cases.

			0–1 year.	1–5 years.	5–15 years.	15–25 years.	25–35 years.	35–45 years.	45–55 years.	55–65 years.	65–75 years.	Over 75 yrs.	Total.	
Small-pox ..	*Notified Cases* ..	M.	..	4	16	7	3	3	3	..	2	..	38	107
		F.	1	7	34	8	6	6	4	2	1	..	69	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	..
		F.	..	..	..	..	..	..	..	..	..	..	..	
Scarlet Fever ..	*Notified Cases* ..	M.	1	30	88	16	3	1	..	..	1	..	140	314
		F.	1	19	114	28	6	5	1	..	..	..	174	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	1
		F.	..	..	1	..	..	..	..	..	..	..	1	
Diphtheria ..	*Notified Cases* ..	M.	1	22	72	15	7	3	2	1	..	..	123	291
		F.	1	23	100	27	9	5	3	..	..	..	168	
	Certified Deaths	M.	..	2	7	..	..	..	..	..	..	..	9	26
		F.	1	9	7	..	..	..	..	..	..	..	17	
Enteric Fever ..	*Notified Cases* ..	M.	1	..	4	4	..	3	1	1	..	..	14	23
		F.	..	..	1	7	1	..	..	..	..	..	9	
	Certified Deaths	M.	..	..	..	..	..	..	..	1	..	..	1	3
		F.	..	..	..	1	1	..	..	..	..	..	2	
Erysipelas ..	*Notified Cases* ..	M.	1	..	..	5	2	5	10	3	3	1	30	94
		F.	1	1	..	9	5	7	18	8	9	6	64	
	Certified Deaths	M.	1	..	..	..	..	..	..	..	..	..	1	3
		F.	1	..	..	..	..	..	..	1	..	..	2	
Puerperal Sepsis ..	*Notified Cases* ..	F.	..	..	..	3	2	2	..	..	..	..	7	
	Certified Deaths	F.	..	..	..	1	4	1	..	..	..	..	6	
Pulmonary Phthisis ..	*Notified Cases* ..	M.	..	7	42	40	60	50	39	16	8	..	262	500
		F.	1	1	33	66	56	39	25	13	3	1	238	
	Certified Deaths	M.	..	3	5	14	29	24	26	11	9	..	121	231
		F.	..	..	1	26	27	24	18	10	3	1	110	
Other Tuberculous Diseases	*Notified Cases* ..	M.	5	15	18	13	4	4	3	1	..	..	63	114
		F.	7	9	7	11	6	3	5	2	1	...	51	
	Certified Deaths	M.	4	15	8	7	3	2	3	..	..	..	42	73
		F.	6	10	2	5	3	1	2	1	1	..	31	
Cerebro-Spinal Fever ..	*Notified Cases* ..	M.	..	..	..	1	..	..	..	..	..	..	1	2
		F.	1	..	1	..	..	..	..	..	..	..	2	
	Certified Deaths	M.	..	..	..	1	..	..	..	..	..	..	1	3
		F.	1	..	1	..	..	..	..	..	..	..	2	
Pneumonia ..	*Notified Cases* ..	M.	..	11	14	16	15	19	11	3	2	..	91	176
		F.	4	17	13	5	4	16	12	8	6	..	85	
	Certified Deaths	M.	65	40	4	7	12	15	18	18	25	6	210	366
		F.	49	35	8	3	10	5	7	9	17	13	156	

Other Notifiable Disease—Ophthalmia Neonatorum, 127 cases, 71 M., 56 F., all under 1.

1922.

NOTIFIABLE INFECTIOUS DISEASES.

Notified Cases and Deaths in Age-periods, distinguishing Male and Female Cases.

			0–1 year.	1–5 years.	5–15 years.	15–25 years.	25–35 years.	35–45 years.	45–55 years.	55–65 years.	65–75 years.	Over 75 yrs.	Total.	
Small-pox	*Notified Cases*	M.	..	3	11	3	..	2	..	..	..	..	19	39
		F.	..	2	13	1	..	4	..	..	..	..	20	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	..
		F.	..	..	..	..	..	..	..	..	..	..	..	
Scarlet Fever	*Notified Cases*	M.	2	35	195	24	3	3	3	..	..	..	265	545
		F.	1	41	192	34	8	4	..	..	..	..	280	
	Certified Deaths	M.	1	..	3	..	..	..	..	..	..	..	4	6
		F.	..	..	2	..	..	..	..	..	..	..	2	
Diphtheria	*Notified Cases*	M.	2	15	44	8	..	..	1	..	..	..	70	161
		F.	..	15	48	20	1	5	2	..	..	..	91	
	Certified Deaths	M.	..	4	1	..	..	..	..	..	..	..	5	10
		F.	..	1	3	1	..	..	..	..	..	..	5	
Enteric Fever	*Notified Cases*	M.	..	1	5	4	1	1	..	..	..	..	12	25
		F.	..	1	4	5	1	2	..	..	..	..	13	
	Certified Deaths	M.	..	..	1	1	..	..	..	..	..	..	2	4
		F.	..	..	..	1	..	1	..	..	..	..	2	
Erysipelas	*Notified Cases*	M.	3	2	1	2	5	8	8	8	16	4	57	129
		F.	1	1	2	6	8	13	24	8	8	1	72	
	Certified Deaths	M.	1	..	..	..	..	..	..	..	..	..	1	6
		F.	..	..	..	..	..	..	1	1	..	3	5	
Puerperal Sepsis	*Notified Cases*	F.	..	..	..	4	5	2	..	..	..	..	11	
	Certified Deaths	F.	..	..	..	1	3	2	..	..	..	..	6	
Pulmonary Phthisis	*Notified Cases*	M.	..	3	27	55	43	65	41	27	9	..	270	474
		F.	..	7	17	60	62	33	15	7	3	..	204	
	Certified Deaths	M.	..	4	3	19	24	40	30	22	8	..	150	267
		F.	..	4	6	35	35	17	12	4	4	..	117	
Other Tuberculous Diseases	*Notified Cases*	M.	5	13	21	3	3	4	1	3	1	..	54	95
		F.	2	8	9	11	2	5	1	2	1	..	41	
	Certified Deaths	M.	5	10	9	4	5	1	2	2	1	..	39	69
		F.	2	8	3	4	2	5	4	1	1	..	30	
Cerebro-Spinal Fever	*Notified Cases*	M.	..	..	..	..	..	1	..	..	..	..	1	2
		F.	..	1	..	..	..	..	..	..	..	..	1	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	1
		F.	..	..	..	1	..	..	..	..	..	..	1	
Pneumonia	*Notified Cases*	M.	2	8	12	13	10	22	18	4	1	1	91	155
		F.	3	6	15	6	14	10	4	3	1	2	64	
	Certified Deaths	M.	45	44	5	6	4	8	14	19	19	15	179	306
		F.	33	35	5	3	2	9	5	9	10	16	127	
Encephalitis Lethargica	*Notified Cases*	M.	1	..	..	..	..	1	..	..	..	..	2	4
		F.	..	1	..	..	..	1	..	..	..	..	2	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	1
		F.	..	1	..	..	..	..	..	..	..	..	1	

Other Notifiable Disease—Ophthalmia Neonatorum, 66 cases, 37 M., 29 F., all under 1.

1923.

NOTIFIABLE INFECTIOUS DISEASES.

Notified Cases and Deaths in Age-periods, distinguishing Male and Female Cases.

			0–1 year.	1–5 years.	5–15 years.	15–25 years.	25–35 years.	35–45 years.	45–55 years.	55–65 years.	65–75 years.	Over 75 yrs.	Total.	
Small-pox ..	*Notified Cases* ..	M.	..	..	11	1	2	1	4	2	..	..	21	31
		F.	..	..	5	3	..	..	2	..	..	..	10	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	..
		F.	..	..	..	..	..	..	..	..	..	..	..	
Scarlet Fever ..	*Notified Cases* ..	M.	1	75	184	30	8	4	1	..	..	..	303	687
		F.	3	79	237	46	14	5	..	..	..	..	384	
	Certified Deaths	M.	..	5	..	1	..	..	1	..	..	..	7	11
		F.	..	3	1	..	..	..	..	..	..	..	4	
Diphtheria ..	*Notified Cases* ..	M.	1	14	70	9	3	2	..	..	..	..	99	218
		F.	..	21	70	13	7	5	2	1	..	..	119	
	Certified Deaths	M.	..	4	3	..	..	..	..	..	..	..	7	12
		F.	..	4	1	..	..	..	..	..	..	..	5	
Enteric Fever ..	*Notified Cases* ..	M.	..	..	6	..	2	1	..	..	..	..	9	13
		F.	..	..	2	1	..	..	..	1	..	..	4	
	Certified Deaths	M.	..	..	..	1	..	2	..	..	..	..	3	3
		F.	..	..	..	..	..	..	..	..	..	..	..	
Erysipelas ..	*Notified Cases* ..	M.	..	..	1	3	2	7	11	11	9	..	44	95
		F.	..	..	3	7	5	11	11	3	7	4	51	
	Certified Deaths	M.	..	..	..	..	..	1	..	..	1	..	2	5
		F.	..	..	..	..	1	..	..	..	..	2	3	
Puerperal Sepsis ..	*Notified Cases* ..	F.	..	..	..	2	3	2	..	..	..	..	7	
	Certified Deaths	F.	..	..	..	1	5	..	..	..	..	..	6	
Pulmonary Phthisis ..	*Notified Cases* ..	M.	6	7	23	38	41	28	21	14	4	..	182	401
		F.	2	1	27	73	48	31	21	7	9	..	219	
	Certified Deaths	M.	4	1	3	26	25	26	28	11	5	..	129	245
		F.	2	..	1	31	33	18	18	7	4	2	116	
Other Tuberculous Diseases	*Notified Cases* ..	M.	5	9	11	9	3	1	4	..	..	..	42	93
		F.	2	14	15	12	..	4	3	1	..	..	51	
	Certified Deaths	M.	8	11	5	4	1	2	3	..	..	..	34	72
		F.	2	14	6	5	3	3	3	2	..	..	38	
Cerebro-Spinal Fever ..	*Notified Cases* ..	M.	..	..	..	1	..	..	..	..	..	..	1	1
		F.	..	..	..	..	..	..	..	..	..	..	..	
	Certified Deaths	M.	..	..	..	1	..	..	..	..	..	..	1	2
		F.	..	1	..	..	..	..	..	..	..	..	1	
Pneumonia ..	*Notified Cases* ..	M.	2	7	12	23	14	21	12	18	2	1	112	176
		F.	3	9	14	12	9	8	4	3	2	..	64	
	Notified Deaths	M.	37	27	4	3	6	16	17	27	28	19	184	299
		F.	29	19	4	3	..	6	8	16	18	12	115	
Encephalitis Lethargica ..	*Notified Cases* ..	M.	..	..	..	..	..	1	..	..	..	..	1	4
		F.	..	..	..	..	3	..	..	..	..	..	3	
	Certified D aths	M.	..	..	..	..	..	..	..	..	1	..	1	1
		F.	..	..	..	..	..	..	..	..	..	..	..	
Acute Poliomyelitis ..	*Notified Cases* ..	M.	..	3	..	..	..	..	..	..	..	..	3	8
		F.	1	3	..	1	..	..	..	..	..	..	5	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	..
		F.	..	..	..	..	..	..	..	..	..	..	..	

OTHER NOTIFIABLE DISEASE—Ophthalmia Neonatorum, 100 cases, 59 M., 41 F., all under 1.

1924.

NOTIFIABLE INFECTIOUS DISEASES.

Notified Cases and Deaths in Age-periods, distinguishing Male and Female Cases.

			0–1 year.	1–5 years.	5–15 years.	15–25 years.	25–35 years.	35–45 years.	45–55 years.	55–65 years.	65–75 years.	Over 75 yrs.	Total.	
Small-pox	*Notified Cases*	M.	..	..	..	1	..	..	..	..	2	4	7	9
		F.	..	..	..	1	..	..	1	..	..	..	2	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	..
		F.	..	..	..	..	..	..	..	..	..	..	..	
Scarlet Fever	*Notified Cases*	M.	1	91	136	26	6	3	..	..	..	..	263	561
		F.	..	64	180	32	19	3	..	..	..	..	298	
	Certified Deaths	M.	..	2	..	..	..	..	..	..	..	..	2	4
		F.	..	1	1	..	..	..	..	..	..	..	2	
Diphtheria	*Notified Cases*	M.	..	33	51	11	6	..	..	..	..	..	101	237
		F.	..	22	74	28	9	3	..	..	..	..	136	
	Certified Deaths	M.	..	1	3	..	..	..	..	..	..	..	4	10
		F.	..	..	6	..	..	..	..	..	..	..	6	
Enteric Fever	*Notified Cases*	M.	..	..	..	2	..	..	1	1	..	..	4	14
		F.	..	..	2	5	1	1	..	1	..	..	10	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	..
		F.	..	..	..	..	..	..	..	..	..	..	..	
Erysipelas	*Notified Cases*	M.	..	1	3	4	3	7	7	6	11	5	47	90
		F.	..	..	1	6	2	3	4	4	23	..	43	
	Certified Deaths	M.	1	..	..	..	..	..	..	..	..	..	1	3
		F.	..	..	..	..	1	1	..	..	..	..	2	
Puerperal Sepsis	*Notified Cases*	F.	..	..	..	2	4	..	..	..	..	..	6	
	Certified Deaths	F.	..	..	..	..	3	1	..	..	..	..	4	
Pulmonary Phthisis	*Notified Cases*	M.	..	6	20	51	71	57	39	22	5	..	271	556
		F.	1	4	25	95	64	49	33	8	6	..	285	
	Certified Deaths	M.	..	3	2	26	27	39	23	12	6	..	138	262
		F.	1	2	3	37	27	27	14	7	5	1	124	
Other Tuberculous Diseases	*Notified Cases*	M.	4	27	10	11	3	4	4	..	2	..	65	116
		F.	3	10	15	7	9	1	5	..	1	..	51	
	Certified Deaths	M.	3	15	3	3	2	..	2	..	1	..	29	55
		F.	3	10	3	3	4	..	1	..	1	1	26	
Cerebro-Spinal Fever	*Notified Cases*	M.	..	..	1	..	..	..	..	..	..	..	1	1
		F.	..	..	..	..	..	..	..	..	..	..	..	
	Certified Deaths	M.	..	1	..	..	..	..	..	..	..	..	1	1
		F.	..	..	..	..	..	..	..	..	..	..	..	
Pneumonia	*Notified Cases*	M.	9	54	29	22	25	23	22	8	5	2	199	324
		F.	4	32	19	11	22	18	10	4	3	2	125	
	Certified Deaths	M.	47	54	5	9	11	12	30	28	21	20	237	410
		F.	37	42	3	2	5	9	9	17	29	20	173	
Encephalitis Lethargica	*Notified Cases*	M.	..	1	2	7	3	..	2	..	1	..	16	25
		F.	..	1	2	3	..	2	1	..	..	..	9	
	Notified Deaths	M.	..	..	3	..	..	1	1	..	..	..	5	10
		F.	..	1	..	1	2	1	..	..	..	..	5	
Acute Poliomyelitis	*Notified Cases*	M.	..	1	..	..	..	..	..	..	..	..	1	3
		F.	..	1	1	..	..	..	..	..	..	..	2	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	..
		F.	..	..	..	..	..	..	..	..	..	..	..	

OTHER NOTIFIABLE DISEASE—Ophthalmia Neonatorum, 105 cases, 62 M., 43 F., all under 1.

1925.

NOTIFIABLE INFECTIOUS DISEASES.

Notified Cases and Deaths in Age-periods, distinguishing Male and Female Cases.

			0–1 year.	1–5 years.	5–15 years.	15–25 years.	25–35 years.	35–45 years.	45–55 years.	55–65 years.	65–75 years.	Over 75 yrs.	Total.	
Small-pox	*Notified Cases*	M.	..	..	..	1	1	2	1	1	..	..	6	17
		F.	..	1	4	1	..	3	..	1	..	1	11	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	..
		F.	..	..	..	..	..	..	..	..	..	..	..	
Scarlet Fever	*Notified Cases*	M.	4	77	165	36	5	5	1	..	..	..	293	619
		F.	..	76	209	30	8	1	2	..	..	..	326	
	Certified Deaths	M.	1	3	2	..	..	..	..	..	..	..	6	13
		F.	..	5	1	1	..	..	..	..	..	..	7	
Diphtheria	*Notified Cases*	M.	2	27	58	23	8	..	..	..	..	..	118	314
		F.	3	46	98	31	14	3	1	..	..	..	196	
	Certified Deaths	M.	..	4	3	..	..	..	..	..	..	..	7	24
		F.	1	10	5	..	..	1	..	..	..	..	17	
Enteric Fever	*Notified Cases*	M.	..	2	1	2	1	..	..	..	..	..	6	19
		F.	..	..	3	4	1	2	2	1	..	..	13	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	4
		F.	..	..	1	1	1	1	..	..	..	..	4	
Erysipelas	*Notified Cases*	M.	1	3	3	4	14	9	10	3	..	..	47	113
		F.	1	5	3	12	15	14	5	6	4	..	66	
	Certified Deaths	M.	..	..	..	..	..	..	2	..	..	..	2	5
		F.	1	..	..	..	..	1	..	..	1	..	3	
Puerperal Sepsis	*Notified Cases*	F.	..	..	..	5	3	5	..	..	..	..	13	
	Certified Deaths	F.	..	..	..	3	..	1	..	..	..	..	4	
Pulmonary Phthisis	*Notified Cases*	M.	1	1	30	34	27	23	24	11	1	..	152	298
		F.	1	5	15	59	40	13	9	3	1	..	146	
	Certified Deaths	M.	1	2	5	24	18	42	32	9	8	2	143	276
		F.	..	5	4	46	29	19	15	7	5	3	133	
Other Tuberculous Diseases	*Notified Cases*	M.	3	11	23	5	3	1	..	1	..	..	47	80
		F.	1	6	13	6	2	2	1	2	..	..	33	
	Certified Deaths	M.	5	7	6	4	1	3	1	2	..	..	29	48
		F.	4	6	5	3	1	..	..	..	..	..	19	
Cerebro-Spinal Fever	*Notified Cases*	M.	..	..	..	..	..	..	..	..	..	..	..	..
		F.	..	..	..	..	..	..	..	..	..	..	..	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	..
		F.	..	..	..	..	..	..	..	..	..	..	..	
Pneumonia	*Notified Cases*	M.	11	47	43	21	21	30	27	9	5	2	216	347
		F.	7	18	17	26	16	22	12	6	5	2	131	
	Certified Deaths	M.	74	48	6	3	6	22	21	26	30	13	249	451
		F.	54	42	7	2	6	6	11	19	31	24	202	
Encephalitis Lethargica	*Notified Cases*	M.	..	1	2	1	..	1	..	..	..	..	5	11
		F.	..	..	1	1	..	3	..	..	1	..	6	
	Notified Deaths	M.	..	1	1	..	..	1	1	..	..	..	4	8
		F.	..	..	..	1	2	1	..	..	..	..	4	
Acute Poliomyelitis	*Notified Cases*	M.	..	3	..	..	..	..	..	..	..	..	3	5
		F.	..	1	1	..	..	..	..	..	..	..	2	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	1
		F.	..	..	..	..	..	..	..	1	..	..	1	

Other Notifiable Disease—Ophthalmia Neonatorum, 40 cases, 20 M., 20 F., all under 1.

1926.

NOTIFIABLE INFECTIOUS DISEASES.

Notified Cases and Deaths in Age-periods, distinguishing Male and Female Cases.

			0–1 year.	1–5 years.	5–15 years.	15–25 years.	25–35 years.	35–45 years.	45–55 years.	55–65 years.	65–75 years.	Over 75 yrs.	Total.	
Small-pox ..	*Notified Cases* ..	M.	..	1	9	4	3	1	1	1	..	..	20	35
		F.	..	1	8	1	1	1	1	2	..	..	15	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	..
		F.	..	..	..	..	..	..	..	..	..	..	..	
Scarlet Fever ..	*Notified Cases* ..	M.	..	39	101	28	7	3	1	..	..	..	179	383
		F.	2	41	123	30	7	1	..	..	..	..	204	
	Certified Deaths	M.	..	2	..	..	..	..	..	..	..	..	2	4
		F.	..	1	1	..	..	..	..	..	..	..	2	
Diphtheria ..	*Notified Cases* ..	M.	1	63	164	28	5	4	2	..	..	..	267	650
		F.	6	68	191	70	25	13	5	3	2	..	383	
	Certified Deaths	M.	2	2	23	..	..	..	..	..	..	..	27	70
		F.	..	8	32	1	1	..	..	1	..	..	43	
Enteric Fever ..	*Notified Cases* ..	M.	..	2	3	3	1	..	2	..	..	..	11	20
		F.	..	..	3	2	..	1	2	1	..	..	9	
	Certified Deaths	M.	..	..	..	..	..	..	1	..	..	..	1	2
		F.	..	..	..	..	..	..	1	..	..	..	1	
Erysipelas ..	*Notified Cases* ..	M.	..	1	1	3	5	16	8	17	9	2	61	144
		F.	1	5	6	10	6	11	20	14	9	..	83	
	Certified Deaths	M.	..	..	..	..	..	..	1	1	1	1	4	6
		F.	..	..	..	..	..	..	..	1	1	..	2	
Puerperal Sepsis ..	*Notified Cases* ..	F.	..	..	..	2	7	3	..	..	..	..	12	
	Certified Deaths	F.	..	..	..	1	2	1	..	..	..	..	4	
Puerperal Pyrexia ..	*Notified Cases* ..	F.	..	..	..	7	..	..	..	..	..	..	7	
	Certified Deaths	F.	..	..	..	..	..	..	..	..	..	..	..	
Pulmonary Phthisis ..	*Notified Cases* ..	M.	1	10	37	45	56	33	38	12	3	..	235	440
		F.	2	4	31	60	64	30	10	2	2	..	205	
	Certified Deaths	M.	..	1	3	19	16	29	25	21	2	..	116	225
		F.	2	4	6	39	18	18	10	9	3	..	109	
Other Tuberculous Diseases	*Notified Cases* ..	M.	9	15	18	8	3	1	5	2	1	..	62	101
		F.	3	7	15	6	3	5	..	..	..	..	39	
	Certified Deaths	M.	7	12	7	2	5	3	4	..	1	..	41	63
		F.	2	7	5	4	..	3	1	..	..	..	22	
Cerebro-Spinal Fever ..	*Notified Cases* ..	M.	1	..	..	..	..	1	..	..	..	..	2	2
		F.	..	..	..	..	..	..	..	..	..	..	..	
	Certified Deaths	M.	1	1	..	..	..	..	..	..	..	..	2	2
		F.	..	..	..	..	..	..	..	..	..	..	..	
Pneumonia ..	*Notified Cases* ..	M.	15	53	44	33	22	37	19	21	12	5	261	390
		F.	7	22	16	11	17	21	16	10	5	4	129	
	Certified Deaths	M.	52	44	8	6	7	12	22	17	29	12	209	352
		F.	28	36	3	4	7	10	6	10	19	20	143	
Encephalitis Lethargica ..	*Notified Cases* ..	M.	..	..	3	3	..	1	1	..	..	..	8	18
		F.	..	..	3	3	1	..	2	1	..	..	10	
	Certified Deaths	M.	..	..	2	..	..	2	..	..	..	..	4	9
		F.	..	..	2	1	2	..	..	..	..	..	5	
Acute Poliomyelitis ..	*Notified Cases* ..	M.	..	11	1	3	..	..	..	..	..	..	15	30
		F.	1	11	3	..	..	..	..	..	..	..	15	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	1
		F.	..	..	..	..	..	..	1	..	..	..	1	

Other Notifiable Disease—Ophthalmia Neonatorum, 55 cases, 35 M., 20 F., all under 1.

1927.

NOTIFIABLE INFECTIOUS DISEASES.

Notified Cases and Deaths in Age-periods, distinguishing Male and Female Cases.

			0–1 year.	1–5 years.	5–15 years.	15–25 years.	25–35 years.	35–45 years.	45–55 years.	55–65 years.	65–75 years.	Over 75 yrs.	Total.	
Small-pox ..	*Notified Cases* ..	M.	..	..	2	2	1	1	1	..	1	..	8	14
		F.	..	..	1	2	..	1	2	..	..	..	6	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	..
		F.	..	..	..	..	..	..	..	..	..	..	..	
Scarlet Fever ..	*Notified Cases* ..	M.	2	44	94	20	6	5	1	1	..	..	173	465
		F.	2	47	182	46	9	3	2	1	..	..	292	
	Certified Deaths	M.	..	1	1	..	..	..	..	..	..	..	2	5
		F.	..	3	..	..	..	..	..	..	..	..	3	
Diphtheria ..	*Notified Cases* ..	M.	7	126	216	45	14	2	4	1	1	..	416	962
		F.	6	110	251	106	44	17	9	3	..	..	546	
	Certified Deaths	M.	2	15	8	..	..	..	..	..	..	..	25	61
		F.	..	11	24	1	..	..	..	..	..	..	36	
Enteric Fever ..	*Notified Cases* ..	M.	..	..	..	2	..	..	..	..	1	..	3	6
		F.	..	..	1	1	..	..	1	..	..	..	3	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	..
		F.	..	..	..	..	..	..	..	..	..	..	..	
Erysipelas ..	*Notified Cases* ..	M.	..	1	4	4	7	10	8	17	8	2	61	146
		F.	1	1	6	7	11	15	22	11	10	1	85	
	Certified Deaths	M.	..	..	..	..	..	..	1	..	..	..	1	6
		F.	..	..	..	..	1	..	1	1	1	1	5	
Puerperal Sepsis ..	*Notified Cases* ..	F.	..	..	..	3	9	1	..	..	..	..	13	
	Certified Deaths	F.	..	..	..	..	2	..	..	..	..	..	2	
Puerperal Pyrexia ..	*Notified Cases* ..	F.	..	..	..	18	6	..	..	..	..	..	24	
	Certified Deaths	F.	..	..	..	..	..	..	..	..	..	..	..	
Pulmonary Phthisis ..	*Notified Cases* ..	M.	..	6	29	43	32	34	27	11	4	..	186	350
		F.	..	2	23	53	41	21	19	4	1	..	164	
	Certified Deaths	M.	..	5	3	24	23	26	30	23	7	..	141	252
		F.	1	..	6	37	28	17	10	11	1	..	111	
Other Tuberculous Diseases	*Notified Cases* ..	M.	2	5	18	8	6	3	1	..	..	..	43	79
		F.	6	7	7	8	3	5	..	..	..	..	36	
	Certified Deaths	M.	5	14	6	3	1	2	1	1	..	..	33	52
		F.	..	5	5	2	1	3	3	..	..	..	19	
Cerebro-spinal Fever ..	*Notified Cases* ..	M.	1	2	..	2	..	..	..	..	..	..	5	7
		F.	..	2	..	..	..	..	..	..	..	..	2	
	Certified Deaths	M.	1	2	1	1	..	..	..	..	..	..	5	7
		F.	..	1	1	..	..	..	..	..	..	..	2	
Pneumonia ..	*Notified Cases* ..	M.	14	45	28	28	37	39	25	17	12	7	252	479
		F.	17	35	39	12	29	28	29	17	13	8	227	
	Certified Deaths	M.	57	40	6	3	5	19	27	22	23	14	216	413
		F.	38	34	6	5	8	16	13	21	31	25	197	
Encephalitis Lethargica ..	*Notified Cases* ..	M.	..	..	1	1	..	..	..	1	..	..	3	8
		F.	..	1	..	2	1	..	1	..	..	..	5	
	Certified Deaths	M.	1	..	..	..	..	1	..	2	..	..	4	7
		F.	..	1	..	..	..	..	2	..	..	..	3	
Acute Poliomyelitis ..	*Notified Cases* ..	M.	..	1	..	..	..	..	..	..	..	..	1	3
		F.	1	1	..	..	..	..	..	..	..	..	2	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	..
		F.	..	..	..	..	..	..	..	..	..	..	..	

Other Notifiable Disease—Ophthalmia Neonatorum, 49 cases, 20 M., 29 F., all under 1.

1928.

NOTIFIABLE INFECTIOUS DISEASES.

Notified Cases and Deaths in Age-periods, distinguishing Male and Female Cases.

			0–1 year.	1–5 years.	5–15 years.	15–25 years.	25–35 years.	35–45 years.	45–55 years.	55–65 years.	65–75 years.	Over 75 yrs.	Total	
Small-pox	*Notified Cases*	M.	..	3	13	18	8	11	10	19	10	2	94	146
		F.	..	1	23	9	4	5	5	3	2	..	52	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	..
		F.	..	..	..	..	..	..	..	..	..	..	..	
Scarlet Fever	*Notified Cases*	M.	3	71	226	37	13	5	1	..	..	..	356	743
		F.	3	70	242	45	17	9	1	..	..	..	387	
	Certified Deaths	M.	..	3	2	..	1	..	..	..	..	..	6	7
		F.	..	..	1	..	..	..	..	..	..	..	1	
Diphtheria	*Notified Cases*	M.	3	90	233	44	26	23	3	3	..	..	425	927
		F.	6	92	240	87	47	20	6	3	1	..	502	
	Certified Deaths	M.	..	11	8	..	..	..	..	..	..	..	19	43
		F.	1	13	8	1	..	1	..	..	..	..	24	
Enteric Fever	*Notified Cases*	M.	..	1	1	3	2	3	1	..	..	..	11	25
		F.	..	..	4	2	4	1	1	2	..	..	14	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	1
		F.	..	..	..	..	..	..	..	1	..	..	1	
Erysipelas	*Notified Cases*	M.	..	3	2	4	1	4	10	10	11	1	46	136
		F.	..	2	3	11	5	15	19	17	11	7	90	
	Certified Deaths	M.	..	..	..	..	..	1	..	..	..	..	1	7
		F.	..	..	..	..	..	..	1	1	3	1	6	
Puerperal Sepsis	*Notified Cases*	F.	..	..	..	6	8	5	..	..	..	..	19	
	Certified Deaths	F.	..	..	..	4	4	..	..	..	..	..	8	
Puerperal Pyrexia	*Notified Cases*	F.	..	..	..	12	22	1	..	..	..	..	35	
	Certified Deaths	F.	..	..	..	..	..	..	..	..	..	..	..	
Pulmonary Phthisis	*Notified Cases*	M.	1	1	14	44	25	24	28	12	5	..	154	291
		F.	..	1	18	35	43	18	9	13	..	..	137	
	Certified Deaths	M.	..	1	2	26	24	27	38	24	5	..	147	253
		F.	2	1	4	30	21	28	6	8	2	4	106	
Other Tuberculous Diseases	*Notified Cases*	M.	..	3	9	8	5	..	1	1	1	..	28	54
		F.	..	4	11	8	3	..	..	..	..	..	26	
	Certified Deaths	M.	1	7	2	..	1	..	..	1	2	..	14	39
		F.	5	4	6	2	2	2	1	1	2	..	25	
Cerebro-spinal Fever	*Notified Cases*	M.	2	1	1	..	..	2	..	..	..	..	6	7
		F.	..	..	..	..	..	..	1	..	..	..	1	
	Certified Deaths	M.	1	1	..	..	1	..	..	..	..	..	3	5
		F.	1	..	..	..	..	1	..	..	..	..	2	
Encephalitis Lethargica	*Notified Cases*	M.	..	1	..	1	1	..	..	..	..	..	3	3
		F.	..	..	..	..	..	..	..	..	..	..	..	
	Certified Deaths	M.	..	1	..	..	..	..	..	..	..	..	1	2
		F.	..	1	..	..	..	..	..	..	..	..	1	
Acute Poliomyelitis	*Notified Cases*	M.	1	2	1	..	..	..	..	..	..	..	4	7
		F.	..	2	1	..	..	..	..	..	..	..	3	
	Certified Deaths	M.	..	..	..	..	..	..	..	..	..	..	..	..
		F.	..	..	..	..	..	..	..	..	..	..	..	
Pneumonia	*Notified Cases*	M.	14	32	46	26	30	29	24	20	15	9	245	401
		F.	22	40	24	13	14	9	9	14	7	4	156	
	Certified Deaths	M.	49	16	1	5	6	10	22	22	29	9	169	329
		F.	31	24	2	1	3	6	15	17	33	28	160	

Other Notifiable Disease—Ophthalm a Neonatorum, 29 cases, 9 M., 20 F., all under 1.

Nottingham. Notification and other Infectious Disease Data up to the end of 1928.

	Scarlet Fever. *			Enteric Fever. †			Small-Pox. *			Diphtheria. ‡		
	Deaths.	Known cases.	Ratio of known cases to Deaths.	Deaths.	Known cases.	Ratio.	Deaths.	Known cases	Ratio.	Deaths.	Known cases.	Ratio.
1881	353	..	..	61	..	..	4	..	..	7	..	..
1882	280	1029	3·7	71	68	1·0	51	446	8·7	21	..	..
1883	59	428	7·3	73	159	2·2	2	23	11·5	34	125	3·7
1884	37	384	10·4	68	218	3·2	..	11	..	39	113	2·9
1885	31	390	12·6	44	326	7·4	2	10	5·0	28	85	3·0
1886	13	351	27·0	61	317	5·2	2	12	6·0	10	68	6·8
1887	22	615	28·0	74	411	5·6	..	2	..	10	50	5·0
1888	25	643	25·7	89	426	4·8	12	59	4·9	34	152	4·5
1889	32	1047	32·7	66	395	5·9	..	..	..	11	66	6·0
1890	33	984	29·8	58	348	6·0	..	..	..	16	64	4·0
1891	28	895	31·9	70	396	5·6	..	..	..	21	103	4·9
1892	43	1163	27·0	36	205	5·6	..	..	..	30	76	2·5
1893	82	1511	18·4	68	490	7·2	5	53	10·6	15	81	5·4
1894	51	1164	22·8	62	363	5·8	4	59	15·8	18	56	3·1
1895	51	1250	24·5	55	461	8·3	..	3	..	11	47	4·2
1896	27	731	27·1	75	478	6·4	..	..	..	12	60	5·0
1897	34	517	15·2	45	428	9·5	..	..	..	21	75	3·6
1898	32	931	29·1	54	423	7·8	..	..	..	23	85	3·7
1899	53	2500	47·2	114	613	5·4	..	..	..	30	142	4·7
1900	55	1394	25·3	75	505	6·7	..	..	..	28	116	4·1
1901	11	918	83·5	79	535	6·8	..	7	..	29	115	3·97
1902	23	966	42·0	50	375	7·5	..	..	..	31	209	6·74
1903	34	1420	41·8	36	200	5·6	2	152	76·0	60	423	7·05
1904	27	1189	44·0	58	296	5·1	10	308	30·8	71	546	7·7
1905	19	681	35·8	24	255	10·6	1	19	19·0	49	537	10·9
1906	17	611	35·9	40	285	7·1	..	..	..	41	570	13·9
1907	5	416	83·2	37	231	6·2	..	..	..	42	517	12·3
1908	11	595	54·1	29	237	8·2	..	..	..	30	454	15·1
1909	10	1036	103·6	19	157	8·3	..	..	..	26	438	16·8
1910	14	697	49·8	13	103	7·9	1	8	8·0	29	378	13·0
1911	9	489	54·3	28	207	7·4	..	1	..	31	388	12·5
1912	23	1120	48·7	14	81	5·8	..	4	..	26	386	14·8
1913	17	986	58·0	8	34	4·2	..	..	..	39	433	11·1
1914	12	958	79·8	5	36	7·2	..	..	..	36	381	10·6
1915	15	1239	82·6	6	30	5·0	..	..	..	14	182	13·0
1916	5	438	87·6	8	58	7·2	..	..	..	16	201	12·6
1917	6	230	38·3	2	29	14·5	..	..	..	18	262	14·6
1918	3	196	65·3	5	15	3·0	..	1	..	48	386	8·0
1919	9	465	51·7	2	11	5·5	..	..	..	66	492	7·4
1920	9	618	68·7	2	14	7·0	..	..	..	93	720	7·7
1921	1	314	314·0	3	23	7·7	..	107	..	26	291	11·2
1922	6	545	90·8	4	25	6·2	..	39	..	10	161	16·1
1923	11	687	62·4	3	13	4·3	..	31	..	12	218	18·1
1924	4	561	140·2	..	14	..	..	9	..	10	231	23·7
1925	13	619	47·0	4	19	4·7	..	17	..	24	314	13·1
1926	4	383	95·7	2	20	10·0	..	34	..	70	650	9·3
1927	5	465	93·0	..	6	..	..	14	..	61	942	15·4
1928	7	743	106·0	1	25	25·0	..	146	..	43	927	21·8

	Puerperal Sepsis. §			Erysipelas. §			Ophthalmia Neonatorum. §			Phthisis. §			Other Tuberculous Diseases. §		
	Deaths.	Known cases.	Ratio.	Deaths.	Known cases.	Ratio.	Deaths.	Known cases.	Ratio.	Deaths.	Known cases.	Ratio.	Deaths.	Known cases.	Ratio.
1881	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1882	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1883	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1884	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1885	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1886	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1887	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1888	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1889	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1890	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1891	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1892	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1893	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1894	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1895	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1896	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1897	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1898	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1899	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1900	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1901	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1902	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1903	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1904	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1905	12	12	1·0	11	110	10·0	..	..	..	..	..	..	..	..	..
1906	19	19	1·0	10	220	22·0	..	..	..	..	..	..	..	..	..
1907	19	19	1·0	21	241	11·5	..	..	..	..	..	..	..	..	..
1908	9	16	1·8	8	211	26·4	..	..	..	..	..	..	..	..	..
1909	8	14	1·7	7	259	37·0	..	..	..	..	..	..	..	..	..
1910	4	9	2·2	6	260	43·3	..	..	..	..	..	..	..	..	..
1911	9	13	1·4	4	207	51·7	1	18	18·0	..	..	..	..	..	..
1912	6	10	1·7	6	199	33·2	..	113	..	306	900	2·94	..	..	..
1913	11	15	1·4	6	190	31·7	1	113	113·	300	665	2·22	79	139	1·76
1914	10	19	1·9	8	222	27·7	..	157	..	321	780	2·43	115	199	1·73
1915	6	8	1·3	4	220	55·0	..	126	..	329	518	1·57	89	115	1·29
1916	5	12	2·4	6	208	34·6	..	108	..	311	438	1·41	108	147	1·36
1917	3	14	4·6	2	130	65·0	2	178	89·0	324	462	1·42	91	115	1·26
1918	7	9	1·3	2	111	55·0	..	130	..	311	489	1·57	124	138	1·11
1919	8	12	1·5	4	136	34·0	..	102	..	315	528	1·68	89	118	1·33
1920	14	14	1·0	5	137	27·4	..	94	..	227	534	2·35	74	85	1·15
1921	6	7	1·2	3	94	31·3	..	127	..	231	500	2·12	73	114	1·56
1922	6	11	1·8	6	129	21·5	..	66	..	267	474	1·8	69	95	1·38
1923	6	7	1·1	5	95	19·0	..	100	..	245	401	1·6	72	93	1·29
1924	4	6	1·5	3	90	30·0	..	105	..	262	556	2·1	55	116	2·11
1925	4	13	3·2	5	113	22·6	..	40	..	276	298	1·1	48	80	1·7
1926	4	12	3·0	6	144	24·0	..	55	..	225	270	1·2	63	101	1·6
1927	2	15	7·5	6	146	24·3	..	49	..	252	350	1·4	52	79	1·5
1928	8	17	2·1	7	136	19·4	..	26	..	253	291	1·1	39	54	1·4

	Cerebro-Spinal Fever. §			Acute Polio-myelitis.			Acute Polio-Encephalitis.			Malaria. §			Dysentery. §			Puerperal Pyrexia. §		
	Deaths.	Known cases.	Ratio.	Deaths.	Known cases.	Ratio.	Deaths.	Known cases.	Ratio.	Deaths.	Known cases.	Ratio.	Deaths.	Known cases.	Ratio.	Deaths.	Known cases.	Ratio.
1881	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1882	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1883	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1884	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1885	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1886	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1887	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1888	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1889	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1890	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1891	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1892	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1893	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1894	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1895	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1896	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1897	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1898	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1899	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1900	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1901	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1902	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1903	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1904	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1905	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1906	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1907	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1908	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1909	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1910	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1911	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1912	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1913	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1914	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1915	5	12	2·4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1916	4	5	1·2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1917	5	12	2·4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1918	6	12	2·0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1919	6	7	1·2	..	1	..	..	..	..	..	65	..	..	3	..	..	..	..
1920	11	11	1·0	..	..	..	..	..	..	1	168	168	..	6	..	..	..	..
1921	3	3	1·0	..	1	..	..	..	..	..	15	..	..	3	..	..	..	..
1922	1	2	2·0	..	..	..	..	..	..	..	..	..	..	8	..	..	..	..
1923	2	1	0·5	..	8	..	..	..	..	..	..	..	..	2	..	..	..	..
1924	1	1	1·0	..	3	..	..	..	..	..	..	..	..	9	..	..	..	..
1925	..	..	..	..	5	..	..	..	..	..	1		..	1	..	..	..	..
1926	2	2	1·0	1	30	30·0	..	3	..	..	26	} *a*	..	..	..	..	9	..
1927	7	7	1·0	1	3	3·0	..	..	..	..	12		..	1	..	..	24	..
1928	5	7	1·4	..	7	..	..	..	..	..	14		..	7	..	..	31	..

	Encephalitis Lethargica. §			Acute, Primary & Influenzal Pneumonia. §			Measles. §			Deaths from Non-notifiable Epidemic Diseases.			
	Deaths.	Known cases.	Ratio.	Deaths.	Known cases. (Incomplete Notification.)	Ratio.	Deaths.	Known cases.	Ratio.	Whooping Cough.	Diarrhœa.	Pemphigus.	TOTAL.
1881	..	..	..	..		..	34	..	..	68	202	..	324
1882	..	..	..	..		..	133	..	..	73	225	..	431
1883	..	..	..	..		..	14	..	..	76	168	..	258
1884	..	..	..	..		..	145	..	..	129	377	..	651
1885	..	..	..	..		..	112	..	..	116	163	..	391
1886	..	..	..	..		..	175	..	..	90	328	..	593
1887	..	..	..	..		..	58	..	..	153	315	..	526
1888	..	..	..	..		..	115	..	..	81	157	..	353
1889	..	..	..	..		..	86	..	..	153	263	..	502
1890	..	..	..	..		..	52	..	..	47	185	..	284
1891	..	..	..	..		..	110	..	..	121	180	..	411
1892	..	..	..	..		..	118	..	..	117	158	..	393
1893	..	..	..	..		..	25	..	..	59	358	..	442
1894	..	..	..	..		..	134	..	..	118	134	..	386
1895	..	..	..	..		..	1	..	..	33	444	..	478
1896	..	..	..	..		..	203	..	..	91	175	..	469
1897	..	..	..	..		..	49	..	..	117	530	..	696
1898	..	..	..	..		..	104	..	..	59	385	..	548
1899	..	..	..	..		..	140	..	..	54	600	..	792
1900	..	..	..	..		..	45	..	..	103	387	..	535
1901	..	..	..	..		..	96	..	..	96	361	..	553
1902	..	..	..	..		..	4	..	..	37	194	..	235
1903	..	..	..	..		..	98	..	..	92	166	..	356
1904	..	..	..	..		..	44	..	..	89	344	..	477
1905	..	..	..	..		..	232	..	..	61	202	..	495
1906	..	..	..	..		..	..5	..	..	40	375	..	420
1907	..	..	..	..		..	203	..	..	131	155	..	489
1908	..	..	..	..		..	31	..	..	64	171	..	266
1909	..	..	..	..		..	143	..	..	59	163	..	365
1910	..	..	..	..		..	54	..	..	63	96	..	213
1911	..	..	..	..		..	96	..	..	39	435	..	570
1912	..	..	..	..		..	160	..	..	71	87	..	318
1913	..	..	..	..		..	20	..	..	42	220	..	282
1914	..	..	..	..		..	145	..	..	64	207	..	416
1915	..	..	..	..		..	54	..	..	69	166	..	289
1916	1	..	..	..		..	60	2237	37·3	22	138	2	160
1917	3	..	..	..		..	105	2141	20·4	66	72	2	138
1918	..	..	..	593		..	31	1171	37·8	67	87	2	154
1919	3	..	..	358		..	11	620	56·4	25	82	1	107
1920	5	6	1·2	340		..	99	..	..	25	80	2	204
1921	3	2	0·7	366		..	..	..	..	42	113	1	155
1922	1	4	4·0	306		..	93	..	..	26	59	1	178
1923	1	4	4·0	299		..	27	..	..	34	74	1	135
1924	10	25	2·5	410		..	4	..	..	38	59	..	101
1925	8	11	1·4	451		..	96	..	..	31	53	..	180
1926	9	18	2·0	352		..	11	..	..	66	84	3	161
1927	7	8	1·1	413		..	20	..	..	9	81	1	110
1928	2	3	1·5	329		..	6	..	..	16	79	3	101

* Notification of Small-Pox and Scarlet Fever, from February, 1882.
‡ do. Diphtheria, from August, 1885.
† do. Enteric Fever and Typhus, from June, 1883.

§ Notification of Puerperal Sepsis and Erysipelas from 1905.
do. Ophthalmia Neonatorum do. 1911.
do. Phthisis do. 1912.
do. Other Tuberculous Diseases from February 1st, 1913.
do. Cerebro-spinal Fever, from 1915.
do. Measles from January 1st, 1916 to December, 31st, 1919.
do. Encephalitis Lethargica from January 1st, 1919.
do. Pneumonia, Malaria and Dysentery, from March, 1919.
do. Puerperal Pyrixia, from October, 1926.

a Cases of Malaria artificially induced at City Mental Hospital in treatment of G.P.I.

NOTIFIABLE INFECTIOUS DISEASES.

Total cases notified. Cases removed to hospital. Fatal cases.

1916 to 1928.

Year.	1916		1917		1918		1919		1920		1921		1922		1923		1924		1925		1926		1927		1928	
Total cases and Nos. removed to Hospital.	Total Cases	Rem. to Hosp.	Total Cases	Rem. to Hosp.	Total Cases	Rem. to Hosp.	Total Cases	Rem. to Hosp.	Total Cases	Rem. to Hosp.	Total Cases	Rem. to Hosp.	Total Cases	Rem. to Hosp.	Total Cases	Rem. to Hosp.	Total Cases	Rem. to Hosp.	Total Cases	Rem. to Hosp.	Total Cases	Rem. to Hosp.	Total Cases	Rem. to Hosp.	Total Cases	Rem. to Hosp.
Scarlet fever : Cases ..	438	256	230	128	196	136	465	280	618	381	314	186	545	354	687	507	561	417	619	466	383	294	465	356	743	356
Deaths ..	5		3		6		9		9		1		6		11		4		13		4		5		7	
Enteric fever : Cases ..	58	41	29	11	15	10	11	8	14	5	23	7	25	11	13	8	14	14	19	12	20	13	6	4	25	25
Deaths ..	8		2		5		2		2		3		4		3		0		4		2		0		1	
Diphtheria : Cases ..	201	118	262	145	386	239	492	316	720	359	291	211	161	92	218	149	257	179	314	290	650	611	942	880	927	872
Deaths ..	16		18		48		66		93		26		10		12		10		24		70		61		43	
Small-pox : Cases ..	—	—	—	—	—	—	—	—	—	—	107	107	95	95	136	136	200	200	426	426	181	181	80	80	233	233
Deaths ..	—	—	—	—	—	—	—	—	—	—	0		0		0		0		0		0		0		0	
† Admitted from places outside the City													50		123		200		424		154		72		95	

* 12, 9 and 20 cases of enteric fever respectively were admitted to the Nottingham Isolation Hospital during 1925, 1926 and 1928, from places outside the City.

† With the approval of the Ministry of Health, cases of Small-pox from outside districts have been admitted to the Nottingham S.P. Hospital since 1922. The numbers of such cases admitted in successive years are given at the bottom of columns from 1922 to 1928.

Cancer.—The deaths registered in Nottingham as due to cancer (or malignant new growths), during recent years, show, on an average, a slightly diminished tendency to increase. The average annual number of cancer deaths during the five years ending with 1928 was 372, as compared with 356 for the immediately preceding quinquennium—an advance, that is, of 16 only for the latter period. In order to estimate the number of fatalities from cancer in certain regions of the body, *e.g.*, those from invasion of the stomach, pancreas, liver, peritoneum, and upper parts of the intestines, the incidence on which is heavy and fairly regular, and affords therefore a reasonable criterion of prevalence, it is necessary to group together deaths attributed severally to cancer of these organs and parts, owing to the fact that deaths from the disease in the upper regions of the abdomen, in the absence of post-mortem examinations, are often somewhat carelessly certified, so far as the part or organ principally or primarily affected is concerned. The number of deaths annually certified as due to cancer of the stomach, pancreas, intestines (other than the rectum), liver, gall-bladder and peritoneum, between 1916 and 1928 (inclusive) were consecutively as follows: 93, 118, 144, 118, 135, 153, 131, 147, 139, 117, 163, 152, 144. The average annual total for the five years ending with 1928 was 143, and for those ending with 1923, 137.

In 1923 I was invited to serve with a dozen other Medical Officers of Health upon a sub-committee of the Departmental Committee on Cancer at the Ministry of Health, and have since been engaged in obtaining for the Committee the history of cancer cases occurring in this City and district during recent years. The information required has been collected with the

assistance of an efficient, indefatigable, and tactful inquiry officer (Miss E. Grace Adams, R.R.C. of the Health Department), who has usually been well received both by the general public and the medical profession, in pursuing her inquiries, and has been given free access to all hospital record-books and case-papers; but who has had, nevertheless, much difficulty in obtaining the information required, owing to the somewhat unsatisfactory keeping of records in the past. The principal object with which this work was undertaken was that we might be in possession of the actual facts with regard to (*a*) the average expectation (or natural duration) of life, with cancer of different kinds in various situations, where no radical operation was performed, (*b*) the causes of delay (when this occurred) in diagnosis and effective treatment, and the best means of obviating these, (*c*) the actual results in the prolongation of life and otherwise, of operative measures, including radiological treatment, and (*d*) the possibility of any means of prophylaxis or prevention. This is not the place to deal with the results of the Committee's labours, but I may mention a few salient facts already published, which are of special interest to all. The natural duration of the untreated disease, estimated by taking the average of a large number of cases in several separate communities, works out as follows for the parts and organs mentioned : breast, 38 months; mouth and tongue, 16 months; uterus, 20 months ; larynx, 14 months ; rectum, 26 months ; stomach, and gullet, 12 months. The advantage of early radical operation by an experienced and skilful surgeon, for cancer in most regions, in assuring the patient a reasonable chance of complete recovery, is once more abundantly emphasized as a result of this inquiry. But a successful rival even of the most practised operative surgery,

especially for cancer of the cervix uteri, has recently come to the front, in radium. Dr. Janet E. Lane Claypon has made a report to the Ministry of Health (No. 40, 1927) based upon a general analysis of the literature of the subject at home and abroad down to 1926, which shews that treatment by radium yields a prospect of survival beyond the fifth year from onset, almost equal to that by the surgeon's knife, and, if the inoperable cases treated by radium are eliminated, actually superior to it. When we consider, moreover, that operation with the knife involves a mortality of 17.3 per cent.—as an immediate result of operation—, the value of radium treatment is obviously further enhanced, especially in the estimation of the victims of cancer and their friends. In 1925, at the suggestion of the Departmental Subcommittee, I approached some of the leading members of the medical profession in Nottingham, with a view to the formation of a local Cancer Committee, and this committee was formed ; but, later on, when I suggested the founding of a cancer clinic at which facilities would be given for the early diagnosis of cancer, especially in female cases, the proposal did not meet with a favourable reception. Shortly afterwards, however, a local council of the British Empire Cancer Campaign was established in Nottingham, to serve both the City and surrounding districts, and further action on my part was thus rendered superfluous. The usual propaganda of the " Campaign," in the shape of public meetings, press articles, and notices, placards and the like, has given the Cancer problem sufficient advertisement ever since, without the need of municipal help.

Deaths from Cancer (and Sarcoma) according to part of body affected. 1916-1928.

Part of Body affected.	Year. 1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Stomach ..	32	42	50	46	51	55	50	62	59	52	65	70	38
Uterus ..	41	43	53	44	36	48	38	41	32	34	39	45	39
Intestines ..	26	43	40	29	36	50	52	51	48	34	45	38	55
Liver ..	31	29	44	36	37	39	20	25	24	20	39	30	44
Rectum ..	16	25	21	30	26	33	27	30	33	30	30	31	25
Breast ..	22	26	32	24	48	34	41	52	44	41	38	41	40
Bladder ..	2	10	8	8	8	6	9	14	7	5	6	12	11
Jaw ..	5	5	6	10	5	9	8	6	4	3	7	2	4
Œsophagus ..	12	4	6	9	14	8	9	7	18	11	11	10	11
Mediastinum ..	6	3	9	2	6	6	3	5	5	2	2	2	6
Penis ..	2	3	4	—	1	—	2	2	2	4	4	1	—
Prostate ..	2	3	6	4	3	3	4	4	10	14	6	6	12
Tongue ..	7	8	6	10	9	9	5	12	15	11	4	15	9
Ovary ..	—	6	4	3	1	4	3	9	6	5	4	9	9
Tyhroid ..	1	1	—	—	—	1	1	—	2	3	—	1	1
Lung ..	7	6	5	3	10	8	9	7	13	3	5	11	19
Face ..	2	3	1	3	3	5	8	7	4	2	1	1	4
Larynx ..	4	4	12	8	5	10	11	19	17	11	13	19	18
Gall-bladder ..	1	2	2	—	4	1	2	—	3	6	6	5	4
Vulva ..	1	1	2	2	2	3	—	2	2	2	3	2	3
Brain ..	1	5	—	—	1	3	—	—	1	2	2	1	2
Tonsil ..	1	—	2	4	1	5	1	3	—	4	3	1	4
Lip	1	1	3	1	—	—	—	1	—	5	2	1	2
Mouth ..	1	2	2	1	1	1	2	2	6	2	—	1	1
Arm	1	—	2	1	1	—	2	1	1	2	1	1	1
Pancreas ..	2	2	3	5	5	4	5	7	5	5	6	7	2
Peritoneum ..	1	—	5	2	2	4	2	2	—	—	2	2	1
Leg	4	6	4	2	3	2	1	1	—	4	4	4	4
Orbit ..	1	—	—	1	1	2	—	—	2	3	1	2	—
Pharynx ..	4	—	—	3	2	2	2	2	1	4	3	2	1
Vagina ..	2	2	1	1	1	—	1	1	—	—	—	—	—
Skin	1	1	—	—	—	—	—	—	—	—	—	—	—
Testicles ..	1	2	—	—	—	1	2	2	—	1	—	4	2
Cervical Glands	6	3	5	2	10	6	1	1	—	—	4	2	4
Other parts of body ..	9	11	18	28	19	22	5	17	17	8	11	15	9
Totals ..	256	302	356	322	352	384	326	395	381	333	367	394	385

WORK DONE AT PATHOLOGICAL LABORATORY, 1916-1928.

	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Total specimens examined	2,163	5,562	13,998	16,504	26,326	23,715	19,142	20,340	21,797	23,518	26,252	27,419	26,046
Specimens examined for Tubercle bacilli ..	768	878	2,273	2,513	2,753	2,537	2,683	2,539	2,938	2,956	2,912	2,964	3,213
with positive results	151	186	330	387	464	506	511	431	583	532	645	722	695
„ „ for Diphtheria bacilli ..	983	2,094	3,856	5,971	8,086	4,454	2,036	3,184	4,075	6,285	11,102	12,010	10,258
with positive results	218	576	813	1,488	2,163	1,351	390	920	1,159	1,455	2,564	2,987	2,348
„ „ for Typhoid bacilli ‡ ..	34	80	61	50	68	120	225	189	102	94	57	41	88
with positive results	9	20	15	11	14	23	25	13	14	19	20	6	25
„ „ for Cerebro-Spinal fever ‡	..	1,615	800	59	45	43	..	..	..	..	..	..	..
„ „ for Venereal disease	1,728	2,769	3,436	12,505	12,954	10,762	10,284	10,134	11,230	11,143	11,343	11,141	
Clinical pathological work	..	..	..	..	2,664	3,246	3,103	3,855	4,223	2,687 *	874	760	1,035

* General Hospital established Pathological Laboratory of its own in 1925.

‡ Very few cases of enteric fever and average of only 2 deaths p.a. from 1919 to 1928 (inclusive); most primary infection in public institutions, and imported (from places outside city). Very few cases of C.S.F. from 1921 to 1925 (inclusive) and only 7 deaths.

Dr. F. H. Jacob resigned the post of City Pathologist in March, 1919, and was succeeded by Dr. Gertrude M. Dobrashian; this lady, in turn, resigned in June, 1925, and was succeeded by Dr. C. Rickwood Lane; who left in July, 1926, and was followed in office by Dr. E. J. Storer, who still holds the appointment.

Housing.—On page 112a of this report will be found a table of Housing Statistics set out in the form prescribed by the Circular of the Ministry of Health concerning reports of this nature, and containing particulars under the following headings :—

Number of houses newly erected.

Inspection of dwelling-houses.

Remedy of defects without formal notice.

Action under statutory powers of :—

"A" Section 3, Housing Act, 1925,
"B" Public Health Acts,
"C" Sections 11, 14, 15, Housing Act, 1925,
— for repair, closure and demolition of dwelling-houses.

This table to a large extent speaks for itself, but I may call attention to the fact that more than 7,000 houses have been built, or their construction ordered, by the Nottingham Corporation, during the period under review, and upwards of 3,200 during the two years, 1927 and 1928. The following are the principal building estates of the City, with their acreage, and the number of houses erected, or to be erected, upon each :—

Situation.	Area.	No. of Houses erected or to be erected.	
Sherwood	127·25 acres.	1,087	
Wollaton Park	92·62 „	813	
Bulwell Hall Park	53·80 „	804	
Cardale Road	19·5 „	299	
Colwick Road	4·98 „	150	
Highbury Vale	29·77 „	376	
Lenton Abbey	60·67 „	883	
Gordon Road	17·15 „	194	
Stockhill Lane	31·10 „	224	
Aspley Lane	290·49 „	2,800	(1,200 in course of erection).

Of the 7,000 houses which have been erected, or are to be erected,—

1,464	have a	parlour,	1	living-room and	3 bedrooms.
35	do.	do.	do.	4	do.
3,876	have no	parlour,	1	living-room and	3 bedrooms.
908	do.	do.	do.	2	do.
521	(bungalows)	do.	do.	3	do.
196	(flats)	do.	do.	1	do.
40	(shops)	do.	do.	3	do.

Rentals vary from—

15/8	to 17/–	per week	(inclusive)	for parlour houses.
8/1	to 13/2	—	do.	— non-parlour houses.
13/2	to 18/9	—	do.	— bungalows.
8/2		—	do.	— flats.

The principal estates are those of Sherwood and Wollaton Park. For salubrity and amenities, alike as regards the houses themselves, their situation and their environment, these two estates are ideal. Their distance from the centre of the City is about two miles (rather more in the first case, and rather less in the second), and excellent tram and 'bus services are available for both.

In 1920 I was instructed to write a note upon the Housing situation in Nottingham at that time (soon after the close of the War), and this was written forthwith and published in January 1921. As it deals with matters like the influence of the Finance Act of 1910 upon Housing enterprise, and the direct and indirect influence of the War upon the Housing problem, and other cognate subjects, I venture to think that the interest attaching to it is more than simply historic, and therefore reproduce the essential parts of it here.

CITY OF NOTTINGHAM.

HOUSING DATA, 1916 to 1928 (INCLUSIVE).

	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Number of new houses erected during the year :													
(*a*) Total (including numbers given separately under (*b*))	18	20	2	7	108	706	659	227	450	691	792	1,676	1,563
(*b*) With State assistance under the Housing Acts :—													
(i) By the Local Authority	..	..	..	..	86	676	606	102	87	324	402	1,190	1,274
(ii) By other bodies or persons	..	..	..	..	15	24	11	..	235	283	325	391	217
1. Inspection of dwelling-houses during the year :—													
(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)	507	467	345	480	385	2,116	2,448	2,830	1,895	3,277	2,352	3,004	4,776
(2) Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidated Regulations, 1925	366	344	233	118	762	843	875	860	923	964	788	965	1,687
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	176	156	35	86	213	346	298	416	355	389	246	416	333
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	141	123	112	143	157	1,273	1,573	1,970	1,895	2,313	1,564	2,039	3,089
2. Remedy of defects during the year without service of formal notices :—													
Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their officers	52	41	38	51	236	341	999	2,112	1,773	2,211	1,489	1,875	2,983
(3. Action under Statutory Powers during the year :—													
A.—Proceedings under section 3 of the Housing Act, 1925 :—													
(1) Number of dwelling-houses in respect of which notices were served requiring repairs	..	..	..	..	..	679	590	30	33	..	..	26	..
(2) Number of dwelling-houses which were rendered fit after service of formal notices :—													
(*a*) By Owners	..	..	..	..	..	234	171	30	..	..	..	26	..
(*b*) By Local Authority in default of owners	..	..	..	..	..	..	..	..	33	..	..	..	..
(3) Numbers of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close	..	..	..	..	..	..	..	..	..	..	..	..	..
B.—Proceedings under Public Health Acts :													
(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied..	..	1	..	5	73	171	132	92	79	118	75	90	99
(1) Number of dwelling-houses in which defects were remedied after service of formal notices :—													
(*a*) By owners	..	1	..	4	68	160	111	81	121	115	88	73	109
(*b*) By Local Authority in default of owners	..	..	..	..	..	..	..	..	..	..	..	..	..
C. Proceedings under sections 11, 14, and 15 of the Housing Act, 1925 :—													
(1) Number of representations made with a view to the making of Closing Orders	300	309	196	127									
(2) Number of dwelling-houses in respect of which Closing Orders were made	260	222	114	89									
(3) Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit	7	7	..	..									
(4) Number of dwelling-houses in respect of which Demolition Orders were made	176	156	35	..									
(5) Number of dwelling-houses demolished in pursuance of Demolition Orders	159	87	..	..									

Owing to the shortage of dwellings during this period it was not considered desirable to represent unfit houses, especially in view of the fact that several hundreds of these were about to be demolished in connection either with slum clearance or street improvements [*also see* Sec. VI. Housing (Additional Powers) Act, 1919_.

Note on Local Housing Situation in 1921.

" It is our usual practice now-a-days, when discussing the housing problem, to attribute the present house shortage of this country almost exclusively to the war. But if we consider the steady influx of population from country to town which has been in progress for more than a century, and the inhibiting influence of the 1910 Finance Act upon building operations, we shall realise that three powerful factors instead of one only, all working to the same end, have been in simultaneous operation.

It is estimated that the full contribution from the population of Nottingham to the various services connected with the war amounted to about 40,000 men. Now, the place of these men was taken in great measure by women, a considerable number of whom came from outside the City, although of course, many women already resident in Nottingham took up industrial occupation for the period of the war. The men were ultimately demobilized, but many of the women who had come in to take their places remained in the City, constituting a considerable addition to the natural increment.

During the early days of the war, the natural increase of population, or excess of births over deaths, fell to a very low figure, and in 1918, owing to the high mortality (1,700 deaths) from epidemic influenza, the deaths exceeded the births by 829. But since the return of the men, the birth-rate has risen considerably above the corresponding pre-war figure,* while the death-rate

*26·5 per 1,000 (1920) as compared with an average rate of 23·5 for the 5 years immediately preceeding the War.

has fallen considerably below it. From 1911, the date of the last census, down to the present time (1920), the excess of births over deaths in this City has amounted to 15,971, as compared with 26,570 in the immediately preceding decennium."

To turn now to the construction of new houses.—During the 5 years which followed the Boer War, the average annual number of new houses certified by the City Engineer in Nottingham was 1,190 ; during the next 5 years, ending with the year of the Finance Act(1910), the average annual number was 1,100 ; but in the next 5 years (ending with 1915) it had fallen to 471, and from 1915 to 1919, the period of the Great War, the annual average was 12.

From these and other data we obtain a total of some 63,335 habitable, or potentially habitable, houses in the City. It will be noticed by those who take the trouble to consult previous annual records that this is now a slightly diminishing total, and the diminution is explained by the fact that 1,100 houses have been demolished by the Housing Department, under Part II., Housing of the Working Classes Acts 1890 to 1909, in various parts of the City, and 564 on the Carter Gate Area, under Part I., H.W.C. Acts.

At the census of 1911, the empty houses of all classes in the City numbered 4,870, as compared with 2,963 at the census of 1901. According to an inquiry made by us in the early part of 1914, the unoccupied houses in the city at this time numbered slightly more than 5,000. With the commencement of the War, however, and the influx of munition and other workers to the City, and before the general exodus of the young

male population for war service, it was noticed that the number of empty houses was rapidly diminishing, and by the end of 1918 all previously empty houses in a reasonably habitable condition had been let and occupied. At the close of the next year (with the completion of demobilization), very definite house shortage was apparent in all parts of the City.

As evidence in support of this we have the concurrent opinion on the subject of house-agents, rent-collectors, sanitary-inspectors, and police and rate-office officials.

The dominant cause of the almost sudden shortage that occurred at this time was undoubtedly the demobilization of service men, and large numbers of these men were not returning to the town alone, but had wives and possibly families for whom accommodation was also required. It must not be overlooked that a large proportion of our soldiers were mere boys when first enlisted, and reached a marriageable age either during or immediately after the war. Many of the marriages which took place during the war were contracted for the sake of the separation allowance, which, together with the wages earned by the young wife while still living at home with her own or her husband's parents, afforded her an income of which she was able to save a considerable part by way of provision for the future.

The vacant houses remaining in the early days of the demobilization period were rapidly snapped up, and very many couples were driven to take shelter in any uncongenial and insanitary lodgings they could find.

Any person making investigation of the numbers of individuals housed in separate dwellings in various parts

of the City, will be struck by the fact that, while gross overcrowding through sub-letting occurs in many houses, and, indeed, through whole streets and districts, there are numerous instances of single houses with redundant accommodation occupied by only one, two, or three persons. Unfortunately, the unequal distribution cannot be adjusted except by the will of the tenants; otherwise it would probably be possible to abate a great deal of the existing congestion by distributing the lodgers more evenly. In some streets one is reminded very much of the condition one occasionally sees in a railway train, when some compartments are filled to overflowing, and others contain only one or two persons.

It must not be supposed that the local incidence of overcrowding has occurred through want of a general search for accommodation on the part of persons requiring it; for I am reliably informed that very diligent search for houses and lodgings has been made by multitudes of people in all parts of the City. In working-class neighbourhoods, the unequal distribution of lodgers has certainly to some extent been determined by local fashion or habit. In one district it is good form to take lodgers, and in another it is not. The question whether or not to take lodgers is not by any means always decided by the financial circumstances of the household; for I have known people in very poor circumstances with plenty of house-room who obstinately refused to entertain the idea of lodgers, even when they could have their choice of the latter from a very large number.

The overcrowding in dwellings, though often considerable, is by no means most strongly accentuated in

those districts, namely the slums, where crowding upon space, or house congestion, is most marked. I have had the population enumerated in certain densely congested blocks of slum dwellings, and found an average in all of only some 3 to 4 people per house, and in two of the blocks, both in the Red Lion Street area, most of the houses contained unoccupied rooms.

There is, of course, but little overcrowding in the better- or middle-class houses of the City, for, although house shortage is quite as acute among middle-class people as others, there has been very little house-sharing among the members of this class up to the present. The people belonging to it who cannot find a home of their own are usually driven to lodgings, or boarding-houses, or hotels, according to their taste or means.

It is interesting to note that, with the restriction of the birth-rate and the growing appreciation of all that makes for comfort, amenity, and sanitation in the home, the average number of persons per house and tenement has been steadily falling during the past 40 years; *e.g.*, at the census of 1881 the average number of persons per house in Nottingham was 4.8; at that of 1891, 4.6; at that of 1901, 4.5; and at that of 1911, 4.3. The coming census will probably reveal a reaction, but this, if it occurs, will be only accidental, and due to the enforced overcrowding.

From the foregoing it will be seen that the evils resulting from house shortage press most heavily upon the superior artizan class, a class which constitute the bulk of the population.

The following examples of overcrowding in all parts of the City, gathered impartially from reliable sources, make this fact abundantly clear :—

Houses on the books of prominent house agents of Nottingham, situated in various parts of the City, which contain two or more families.

Beverley and Savage, Newcastle Chambers, Angel Row : 60 small houses, chiefly in Colwick Street and Red Lion Street areas.

S. W. Turpin, Eldon Chambers, Wheeler Gate : about 200 decent houses in Radford district.

Hy. Hallam & Son, Low Pavement : 250 small houses, principally in Sneinton Road and Manvers Street districts.

Baker, Halford & Sons, St. Peter's Gate : some hundreds of fair class houses in Bulwell, Radford and the Meadows districts.

Richard Bavin & Co., Victoria Street : several hundreds of quite good houses in all parts of the Meadows, and St. Ann's Well Road districts.

Mr. Bavin volunteers the statement that many of his tenants furnish their sublet rooms, that the rents they charge are very high, and that many of the sub-tenants are recently married couples. He also states that landlords are often unable to obtain possession of houses vacated by tenants, because ordinary subtenants remain and claim tenancy.

A. W. Shelton, King Street: many (principally very good working-class) houses in various parts of the City, but chiefly in the Arkwright Street and Wilford Road districts of the Meadows.

A. E. E. Turton, Burton Street : upwards of 300 houses, chiefly in Sneinton, Red Lion Street and Meadows districts.

Mr. Turton states that " most houses with 3 or more bedrooms are likely just now to contain two or more families."

The slums of our cities and towns have been much discussed in recent years, and all schools of housing reformers are agreed as to the desirability of removing them and substituting more fitting habitations for their denizens ; but as practically no provision has been made, or, indeed, can in the near future be made for this purpose, because, the new houses now in course of erection under our housing schemes are not directly intended to serve this end, it necessarily follows that they must be allowed to remain for several years at least, and be kept in repair until such time as local and national finances admit of their clearance. The ultimate hope of those responsible for our new housing schemes, and ,indeed, of all persons interested in remedial housing work, is that the superior artizan class will emigrate to the garden suburbs when these are built ; thus making room in the houses they vacate for the present inhabitants of the slums.

PHILIP BOOBBYER.

NOTTINGHAM,
31*st January*, 1921.

Burial-Grounds.—The General Cemetery was closed compulsorily under the Nottingham Corporation Act of 1923, except for the burial of relatives in family graves.

This cemetery is some 18 acres in extent, and is situated in the heart of the City. It was opened for burials under a special private Act in 1837, and has been in continuous use as the principal local burial-place ever since. Having been opened prior to the passing of the Burial Acts of 1847-57, it has not been subject to the Home Office Regulations, issued in July 1857 and January 1863, affecting grave spaces, the number of bodies allowed in each grave, the re-opening of graves and other matters; and, consequently, bodies have been buried almost as closely as they would lie, and nothing but the peculiar fitness of the soil and subsoil for burial purposes has prevented this cemetery from becoming a serious nuisance (I wrote a report on the overcrowded condition of this burial-ground as long ago as 1895), and, in my opinion, its closure was long overdue in 1923.

Since 1923 Nottingham has been almost exclusively dependent for burial space upon the Northern Cemetery at Bulwell, the Church Cemetery on the Forest, and the Wilford Hill Cemetery (4 miles beyond the City boundary on the south). There is still ample space in the Bulwell and Wilford-Hill cemeteries, but the Church Cemetery is almost full. The nearest existing crematorium to Nottingham is that of Leicester, and in view of this fact the Corporation have recently decided to erect one within the enclosure of the Wilford-Hill Cemetery.

Drainage and Sewerage.—The satisfactory drainage, especially in one comprehensive scheme, of the area covered by the City of Nottingham, is a matter of much

difficulty and complexity, owing to the wide and often abrupt variation of the surface contours. Hills and valleys on the north, sloping generally from north to south, and draining to the Trent, and a river plain on the south, bordering the left bank of the Trent, is a sufficient general description of the surface contour of the site. The height of this site above mean water level at Liverpool, ranges from 425 ft. at Mapperley Plains to about 80 ft. at Trent Bridge.

The sewerage system of the City has become progressively unsatisfactory in recent years from a variety of causes; the principal of which are, as regards inadequacy, the growth of the City and its environs, and, as regards inefficiency, the subsidence and disturbance of gradient occasioned by colliery workings.

The City Engineer, Mr. T. Wallis Gordon, after careful investigation and consideration of the whole matter, has recently reported upon it to the City Council; and the following is a brief summary of the conclusions at which he has arrived and the recommendations that he makes: viz.—

(1) That the capacity of the outfall sewer from Nottingham to Stoke (sewage) farm, constructed before 1880, is now altogether inadequate, even with a moderate rainfall.

This sewer should be reconstructed practically along the old course, and should link up by means of an almost direct trunk-sewer, with a new Bulwell sewer at Bobbers Mill. This connecting trunk-sewer would run, to a large extent by tunnel, under the heart of the City.

(2) That the Leen-Valley sewer between Bulwell Green and Bobbers Mill is deficient in carrying and discharging capacity, largely as the result of subsidence from colliery workings.

This sewer should be reconstructed throughout, and be laid along the old route.

(3). That the construction of storm-water culverts, to afford relief to existing sewers in times of excessive rainfall, is urgently needed.

(4) That the provision of a suitable new drainage system for the extensive river-meadow district of Dunkirk is highly necessary.

(5) That the capacity of the Daybrook Valley and Arnold outfall sewer is inadequate, owing to building extension on a large scale in this watershed ; and that a new sewer of larger carrying capacity should be built along the Valley Road.

As a corollary to the suggested new sewerage scheme outlined above, we have recommendations for the preliminary treatment of the sewage at Stoke Farm, prior to its delivery upon the land, with the view of improving the effluent, made in a report by Mr. G. Bertram Kershaw to the Sewage Disposal Committee in September, 1928. This report deals (1) with settling tanks and a site of 9 acres recommended as suitable for them ; (2) with screens and detritus chambers ; (3) with sludge production (estimated at about 146,000 tons per annum) ; and (4) with the disposal of sludge, by pumping, upon the

farm ; (5) with means for measuring the flow of sewage ; (6) with additions to, and extension of, the existing system of sewage carriers ; (7) with the area available (upwards of 1,200 acres) for irrigation; and (8), as an ultimate future development, with the construction of percolating filters and humus tanks, when these shall have become necessary, through insufficiency of the irrigation area, brought about by the growth of the city and its suburbs.

Water Supply.—The public water-supply of Nottingham is constant and abundant, and of unexceptionable quality. The total amount utilized daily for all purposes is 11,124,756 gallons, which is equivalent to 29.4 gallons for each person in the population supplied. In round numbers, six million gallons are allocated to domestic, and five million gallons to trade purposes—including all public services. The domestic allocation corresponds to 16.34 gallons, and the trade to 13.06 gallons, to each person. The water is derived, as to 67 per cent. (approximately) from deep wells and borings in the Bunter (New Red) Sandstone, and as to 33 per cent. (approximately) from the head waters of the Derwent. The sandstone water has an average total hardness of 18.4 degrees (grains to the gallon) ; 11 being temporary and 7.4 permanent. There are five pumping stations for lifting this water. The moorland water (from the Sources of the Derwent) is of course extremely soft, as gathered. This water is filtered, for the removal of suspended matters, and is also slightly hardened by the agency of chalk and lime (during the process of filtering), in order to obviate the injurious action of very soft water, and especially moorland water, on metal pipes and other fittings.

In comparing the present water consumption with that of, say, 20 years ago, it must be remembered that Nottingham was converted from a dry-closet (pail closet) to a water-closet town between 1912 and 1923, and that there are now, approximately, 100,000 water-closets in the area supplied with water by the City of Nottingham ; for our suburban neighbours followed our example in the adoption of water-carriage for the disposal of excreta (in substitution for the dry system) to a very large extent.

Mr. F. W. Davies, the Engineer and General Manager of the Water Department, to whom I am indebted for the figures above given, puts the number of pail-closets converted to water-closets in the area supplied with water by his department, at 42,139, which total is upwards of 6,000 more than that, given by me in other parts of this report, for the city area alone.

In view of the fact that domestic baths have been provided for small houses only in recent years, it may be well also to mention here, that there are now 32,717 domestic baths in this area.

Pail-closets : their conversion to W.C.'s.—The decline in the prevalence of diarrhœal diseases, and especially of enteric fever, which has been recorded in Nottingham and other towns and in the country at large during the present century, has been associated with a recognition of the causes of such prevalence, and the adoption of measures for their removal. The first of these measures, in point of time and of importance, in Nottingham, was the substitution of steel for wooden pails in the pail-closets of the City, at the end of the last

century ; and the second, the abolition of the pail system, and substitution of water-carriage, which was (practically) commenced in 1912 and completed in 1923. Upwards of 36,000 pail-closets were abolished, and w.c.'s substituted for them, during this period (at an average cost, for each conversion, of £16 17s. 7d.). There now remain only some 200 of these dry closets within the city boundaries, in situations where water-carriage is impracticable. In the appendix of this Summary will be found the final report upon the pail-closet system which I furnished to the Local Authority in January of 1912, dealing with the question of conversion (to water-carriage) in all its aspects. I shall here, therefore, only give the average annual deaths from enteric fever registered in Nottingham, in five yearly periods during the 25 years ending with 1925, and the three subsequent years; which illustrate very forcibly the advantage to the public health of freeing a dense, and largely working-class, urban community, from the excremental contamination of its whole environment, at home and at work, which is necessarily in some degree incidental to a dry system, especially with wooden receptacles—which, as already stated, were in use here up to the end of the last century.

The average annual deaths from enteric fever in five-yearly periods between 1895 and 1925, and in the three years 1925-1928, were as follows :—1895-1900, 73 ; 1901-1905, 49 ; 1906-1910, 28 ; 1911-1915, 12 ; 1916-1920 4 ; 1921-1925, 3 ; 1926-1928, 1.

As stated already in another connexion, most of the primary enteric fever cases occurring in Nottingham during the past few years have been in public institutions and imported from outside the City.

Statistics of Sanitary Depôts, 1916-1928.

Furnished by Mr. John Terry.

	1916. Tons.	1917. Tons.	1918. Tons.	1919. Tons.	1920. Tons.	1921. Tons.	1922. Tons.	1923. Tons.	1924. Tons.	1925. Tons.	1926. Tons.	1927. Tons.	1928. Tons.
Refuse destroyed	44,889	35,312	32,987	40,451	46,142	51,249	54,617	63,233	67,324	58,706	59,801	55,758	58,990
„ through Salvage Plant ..	..	..	..	..	..	..	..	..	..	10,395	11,911	15,483	16,315
„ sold	27,110	31,528	31,987	35,433	31,858	27,910	19,719	7,068	5,478	5,831	5,144	5,654	4,497
„ tipped	3,362	5,104	5,369	5,266	4,000	2,168	5,130	3,605	3,652	2,013	2,390	2,734	2,866
Total amounts of refuse handled	75,361	71,944	70,343	81,150	82,000	81,327	79,466	73,906	76,454	76,945	79,246	79,629	82,668
No. of closet pails	30,392	30,084	29,915	29,649	23,205	9,692	6,636	660	314	301	241	240	220
„ dry ash bins	33,911	34,219	34,372	34,620	40,515	54,830	57,507	64,720	65,586	66,161	66,967	67,718	68,821
„ employees .. (Avge.)	330	330	330	330	326	300	275	220	219	220	222	217	220
„ horses	106	101	94	93	85	69	63	47	38	32	29	20	14
„ motor vehicles ..	3	4	7	7	13	16	19	19	24	29	32	37	37

The points of special interest in this table are as follows :—(1) The changes in methods of refuse disposal occasioned by the abolition of pail-closets (commenced 1912, and practically completed, except for irreducible residue, 1923) ; No part of the refuse is now used as Manure ; (2) The abolition of the pail-closets, shewn by the continually diminishing annual totals ; (3) The increase of dry-ash-bins, or moveable receptacles for domestic refuse ; (4) The reduction in the numbers of scavengers, and other employees, occasioned by the change from pail-closets to water-closets ; (5) The substitution of motor carts for horse-drawn carts and drays.

SUMMARY OF WORK DONE BY SANITARY INSPECTORS, 1916-1928.

	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Houses repaired :—													
Roofs							1,100	1,077	981	1,485	870	1,238	2,346
Walls							181	145	166	134	81	98	92
Floors and Ceilings							256	286	222	262	211	223	199
Windows	141	123	112	143	157	1,273	201	205	190	186	156	170	176
Fireplaces							256	371	336	339	287	254	267
Coppers							270	261	219	275	254	210	180
Other structures							318	521	380	165	132	202	144
Houses cleansed	42	40	37	62	84	28	38	61	59	83	86	67	59
,, overcrowding of abated	6	12	35	27	31	7	12	16	18	12	10	5	8
Sinks provided	..	..	..	2	5	..	26	36	3	1	..	5	41
,, repaired	4	8	1	9	4	..	289	355	167	215	167	172	150
Drains cleared	708	592	675	791	873	989	1,167	1,021	885	869	735	761	628
,, repaired, etc.							703	448	280	243	229	197	200
Panterpits abolished	207	68	76	65	55	369	881	467	203	85	128	147	154
Additional W.C's. provided	..	..	..	..	..	..	124	63	28	17	203	288	42
W.C.'s cleared	260	505	392	483	523	468	227	293	251	195	196	169	143
W.C.'s repaired							628	431	578	489	505	474	414
Closets cleansed	..	..	..	..	..	..	12	51	52	71	30	41	12
Waste W.C.'s converted	25	1	1	3	15	64	(5,377 waste-water-closets were replaced by ordinary w.c.'s during this period).				47†	2†	..†
Courts and Yards paved	254	160	131	159	239	274	3	..	1	5	6	1	3
,, ,, cleansed							6	21	18	12	15	11	14
,, ,, paving of repaired ..							700	782	753	857	453	512	392
Nuisances abated, from pigs	12	19	31	27	25	24	16	8	10	4	5	3	3
,, ,, ,, fowls	..	..	..	53	61	138	138	104	50	58	33	39	34
,, ,, ,, other animals ..	..	..	..	..	3	..	23	10	24	16	9	9	11
,, ,, ,, offensive trades ..	..	..	..	..	..	..	2	1	7	1	..	..	..
Manure-pits repaired	13	9	..	5	7	4	7	3	2	3	2	2	1
,, abolished	..	..	..	3	1	..	6	1	3	3	2	3	1
Offensive accumulations removed	165	163	104	171	201	118	135	120	137	125	82	61	51
Ash-bins provided	..	..	..	105*	187*	2,841*	2,329*	2,055*	2,077*	2,824*	4,277*	5,294*	5,142*
Rain-water Conductors repaired or renewed ..	..	..	..	33	29	..	727	884	662	474	444	464	444
Water supply improved	..	..	..	..	..	..	..	..	..	..	..	15	59
Pail-closets converted	866	219	93	41	‡(30,668 pail closets were abolished, and a like No. of w.c.'s substituted for them during this period).						4	..	..
,, repaired	412	267	182	173	197	211							
Ash-pits abolished	16	8	5	..	..	12							
Privies ,, ...	7	9	3	..	2	10	(Now included in "Miscellaneous."						
Soft-water cisterns cleansed or abolished ..	23	9	6	2	..	27							
Stables, &c., drained	15	16	7	10	5	..							
Miscellaneous	1,308	1,357	1,741	1,649	1,601	1,952	1,653	905	617	863	417	402	491
TOTAL.	4,484	3,585	3,632	4,016	4,305	8,809	12,434	11,002	9,379	10,371	10,076	11,539	11,901

* Since the abolition of pail-closets and ash-pits the duty of securing the provision of adequate moveable refuse receptacles has devolved upon the Sanitary Inspector.

† The average cost of converting each waste-water closet to a w.c. was £8 14s. 1d.

‡ The average cost of converting each pail-closet to a w.c. was £16 17s. 7d.

Notices issued, or given, by Health Department, 1916-1928.

Year.	Statutory.	Informal.
1916	8	4,484
1917	16	3,585
1918	4	3,632
1919	22	4,016
1920	132	4,305
1921	411	8,809
1922	465	9,843
1923	253	7,291
1924	317	7,833
1925	364	8,743
1926	517	9,663
1927	473	10,661
1928	355	10,807

The Common Lodging-Houses of Nottingham are now (December 1928) 28 in number, and their situations are given in the accompanying table. Their number has steadily diminished since the end of the War-period, when their total was 48.

Situation and bed capacity of Common Lodging Houses in occupation at end of 1928.

	No. of Beds.		
	Single. M.	Single. F.	Double.
2, Aberdeen Street (Salvation Army Hostel) ..	243	..	..
35, Colwick Street	17	..	..
1, Nile Street (Old Friendly Tavern) ..	22	..	..
Pear Street, Sussex Street	72	..	..
28, and 30, Peel Street (Church Army Home)	65	..	..
15, Red Lion Street	20	..	..
17, do.	22	..	..
33, do.	..	7	..
35, do.	8	..	..
62, do.	9	..	..
73, do.	27	..	..
75, do.	..	10	4
77, do.	26	..	..
51, do.	10	..	..
53, do.	..	9	..
57, do.	10	..	..
69, do.	27	..	..
71, do.	27	..	..
71a, do.	15	..	4
81, do.	33	..	..
83, do.	16	..	..
85, & 87 do.	28	..	..
93, do.	11	..	..
99, do.	13	..	..
101, do.	17	..	..
111 & 113, do.	50	..	..
1, Robin Hood Chase (Locksley House) ..	..	26	..
1, St. John's Churchyard, Leen Side ..	14	..	..
Total Houses, 28. Total Beds ..	802	52	8

The number of beds in the 28 remaining houses is 862, made up of 802 single beds for men, and 52 for women, and 8 double beds. The number in the 48 houses existent ten years ago, were 1,194 altogether, consisting of 892 single beds for men and 302 double beds.

Three of the houses, the Salvation Army Hostel of 243 beds for men, in Aberdeen Street, Sneinton, the Church Army Home of 65 beds, in Peel Street, and the Women's Lodging-House (Locksley House) of 26 beds, at the lower end of Robin Hood Chase, are clean, well-appointed and well-managed establishments, greatly superior to all others on the local register. Indeed, the style of domestic appointment and maintenance in the "Army" Houses (*e.g.* those of the Salvation Army in Aberdeen Street, and of the Church Army in Peel Street, Nottingham,) is such as to afford an excellent object lesson for the travelling poor of the male sex, in all that makes for cleanliness, good order and decency in the dwelling. The opposite is the case with the ordinary low-class common lodging-house for men.

The Women's Lodging-House, opened in 1922, took the place of that previously controlled by the Corporation of Nottingham, which was closed because it was found practically impossible to exclude loose women; and decent working women will not go to a house where these are admitted.

This house is subsidized by the Corporation (to the amount of £100 per annum), and is managed by a committee of ladies interested in social welfare; and its use by respectable working women has been quite satisfactory under the new management. Almost all the common lodging-houses which have been closed in recent years, have been closed and demolished in connection with slum clearance and street improvement; and all the houses in and about Red Lion Street (or Narrow Marsh) are now in course of removal, or about to be removed, in connection with an improvement scheme in which they are

involved. The disappearance of these houses as human dwellings is certainly not a matter for regret on the part of the general population, for they harbour a class of people, chiefly nomads, who live more or less parasitically upon their fellows, and do very little, if any, useful work. The double-bedded houses, too, against which I have written very strongly in many earlier reports, and which we have practically eliminated since the War, are little better than low-class brothels. But, in aggravation of their immoral quality, we have the fact, established by an overwhelming weight of evidence, that they are hotbeds of venereal disease. I am not allowed to give particulars of this evidence, as it belongs to the records of our V.D. Clinic, which are strictly secret, but there can be no doubt that its publication would have a powerful preventive influence.

Common-Lodging-Houses already closed or demolished on Red Lion Street Condemned Area, and in connexion with neighbouring street improvement scheme :—

22, Red Lion Street.
54, Red Lion Street.
9, Count Street.
9, Leen Side.
16, Martin's Yard, Leen Side.
44, Red Lion Street.
46, Red Lion Street.

Common-Lodging-House Voluntarily Closed :

172, Main Street, Bulwell, a lodging-house for men, was closed by voluntary arrangement.

The walls and ceilings of all the houses on the city register have been limewashed throughout in both April and October of each year, as required by Section 82 of the Public Health Act of 1875.

Houses-Let-in-Lodgings.—By-laws under Sec. 90, Public Health Act, 1875. A set of by-laws for houses-let-in-lodgings approved by the Local Government Board on 12th September, 1910, were superseded by another set approved by the Ministry of Health on 24th September, 1926, principally on account of the low rent-limit (5/- a week), for houses to which they should apply, fixed by the Local Government Board in 1910. The by-laws have been specially useful by enabling us to check overcrowding, and secure the cleanliness and proper maintenance of the houses. There are now (December 1928) 98 of them on the city register, and they are regularly inspected. After the issue of a large number of notices, with regard to various matters dealt with by the by-laws, in 1927, proceedings were taken in one case of flagrant infringement—principally lack of cleanliness—, and a fine of £2 was inflicted (9th August, 1927).

Smoke Abatement.—In the Nottingham Corporation Act of 1923 additional powers for dealing with smoke nuisances were obtained ; and this fact, together with the passing of the *public general* Public Health (Smoke Abatement) Act of 1926, determined the action of the City Council on the 7th February, 1927, in transferring the function of dealing with the smoke problem from the Police, to the Health Department.

The result of early Police Court proceedings with the new powers was not encouraging. A summons was taken out against a leading firm of lace-dressers, with several factory chimneys continually sending out large volumes of dense smoke ; but the case was dismissed by a local bench of magistrates on the ground that " the

best practicable means" of consuming smoke had been used "in a satisfactory manner." By way of serious initial effort to deal generally with the industrial smoke problem in Nottingham under the new powers, a list of the worst offending chimneys, other than those of private dwellings, was prepared—including those of several public institutions—and informal notices or letters, in the following general terms, were sent to the occupiers of the premises to which the chimneys were attached, but not necessarily as the precursor of legal proceedings :—

"Dear Sir,

"I have to inform you that observations of the boiler "chimney at your ..... in ..... "having been taken, it has been found that the emission of "smoke (including soot and grit) from the chimney is such as "to constitute a nuisance ; and I have to give you notice that "the continuance of such emission of smoke and other matter "will render you liable to police court proceedings.

"Yours faithfully,

PHILIP BOOBBYER,

"Medical Officer of Health."

In some special cases, however, a visit to the premises was paid by the Medical Officer of Health, or other responsible official ; and information given as to suitable fuel and methods of stoking, or mechanisms for reducing the emission of smoke, soot, ash, grit, etc. At the works of one very large engineering firm, these last took the form of centripetal water sprays in certain offending chimneys ; the introduction of which had the effect of reducing to an almost negligible minimum what had been an intolerable nuisance from the emission of grit (principally consisting of unconsumed coal in a fine state of division). This expedient has been adopted

elsewhere, and has proved a great success. The spray is obtained by fixing rings of iron water-service-pipes, perforated on their inner side, around the interior wall of the chimney, and connecting these with the constant service mains. The supply is controlled by a cock in the boiler-house. I have gone into detail about this particular expedient, because I believe there are exceptional possibilities attaching to it, and because it is very little known.

Offensive Trades.—We have no by-laws or regulations for controlling offensive trades, but all the premises upon which these trades are carried on are regularly inspected; and, speaking generally, their operations are so conducted as to obviate as far as reasonably practicable the production of nuisance in connexion with them. In the case of one large and important firm, which carries on several offensive trades in separate sections of the same premises at no great distance from a good residential neighbourhood, the offensive elements are so effectively controlled as to reduce the production of perceptible effluvia to a minimum.

There are 9 tripe boilers in the city, but only 4 of these are doing any considerable business. There are 4 gut-scraping establishments; and, as this business is liable to produce very serious nuisance in the absence of careful and experienced management, every effort has been made to confine it to capable and substantial firms, and to secure its location in sparse suburban neighbourhoods.

There are 6 large soap-boiling firms in Nottingham; but, as only up-to-date plant and high grade material are used by them all, and as fat is not rendered by any of them, no serious nuisance arises from their production of soap.

The Town Planning Committee have lately decided, provisionally, to set apart an outlying portion of the open land between the Northern Cemetery and Commercial Road, Bulwell, for offensive trades ; and, if this decision should become effective, it would certainly be desirable to draw up by-laws for the regulation of these trades when established anew, and together, upon this area.

Dwelling Vans.—The growing use of Tents and Vans as dwellings has caused much trouble to the Health Department for several years ; but we have preferred to deal with them under Section 9 of the Public Health Act, 1885, as "nuisances and injurious to health" from filthiness or overcrowding, when such conditions exist, rather than attempt to regularize their use by means of by-laws the provisions of which it would be difficult to enforce. Formerly "tents and vans" were used as dwellings for the most part only by show-men and wanderers ; but, in recent years, during periods of housing shortage, they have come into use by ordinary working-class people, and their numbers have greatly increased. Unfortunately, their use by ordinary folk is often continued after the emergency which first occasioned it has passed ; and this is to be deprecated, because life in such dwellings is not only often injurious to health but also to good manners and conduct. The regular inhabitants of a neighbourhood frequently resent the advent of these dwellers in vans, accusing them of various delinquencies, from wholesale theft to the use of closets and other conveniences without permission.

The local authority are on the horns of a dilemma in dealing with the question of granting or refusing applications for the provision of water, gas, electricity, closet-accommodation, scavenging, and even special drainage, for encampments of these wanderers. The granting

offers them encouragement to stay, often more or less permanently ; and the refusal gives them an excuse for any nuisance or other trouble which may arise for lack of these provisions.

Rag Flock Acts, 1911 and 1928, and Regulations, 1912.—There are no rag-flock makers in Nottingham, and only about six bed-makers; all of whom buy their flock, hair, fibre, American-felt, and other filling material, from manufacturers outside—chiefly in the West Riding of Yorkshire. But 30 tons of flock, cotton-waste, and other like material, were disinfected in the Washington Lyon steam disinfecting apparatus at the Eastcroft between 1916 and 1926; 3 tons 18 cwt. in 1927; and 6 tons 10 cwt. in 1928.

One fact which is not sufficiently realised by some branches of the trade and the public, is the necessity of cleansing as well as disinfecting the old flock before it is made up anew—in the interests both of health and decency. The musty odour of many cheap flock-mattresses and cushions is caused by the presence of organic matter in the stuffing material, which should have been removed by " washing " or " scouring " at an early stage of its preparation.

Mosquitoes.—A very considerable amount of nuisance, annoyance, and even illness was occasioned by mosquitoes for some years in this City; especially the southern and low-lying portions of it, situated to leeward (in the direction of the prevailing winds) of the huge swamp, occasioned by coal-mining subsidences, in the water meadows adjacent to the north side of the Midland Railway between Lenton and Nottingham.

In order to combat this evil the swamp was filled up, and the accomplishment of this huge undertaking was the more readily secured because the Midland Railway was in need of the new land, rendered available by the filling up, for extension of their local works and sidings. In addition to this, and other similar measures, for preventing the breeding of mosquitoes, the spraying with paraffin of all stagnant waters in the neighbourhood of the town has been systematically undertaken during spring, summer, and autumn, of each year in which the pest was prevalent, to destroy them when about to enter the atmosphere. The paraffin forms a thin film on the top of the water and suffocates the mature insect or imago as it reaches the surface.

Leaflet literature on the subject has also been issued to the public.

Rat-Week.—Rats and Mice (Destruction) Act, 1919, (which came into force 1st January, 1920). Among the somewhat exceptional matters respecting which the Health Department is called upon to instruct and otherwise assist the public, are the rats and mice nuisance and problem. Before the passing of the Rats and Mice (Destruction) Act, in December, 1919, it had been our practice to give advice and assistance to persons suffering from this nuisance when requested to do so ; but under the Act the power and duty of initiative rests with the local authority, and they are required to see that all persons whose lands or premises are infested with rats or mice take all necessary and reasonably practicable steps for their destruction ; or, if there is only risk of such infestation, take steps to prevent it. The local authority may also (under the Act) give instruction to the public as to the most effective means and methods—to be used both individually and collectively—for achieving these objects.

In October of 1919, prior to the passing of this Act, the Board (now the Ministry) of Agriculture and Fisheries, following the custom of the times, decided to inaugurate throughout the country, the observance of a special annual "week" of intensive action, directed to the destruction of rats and mice and the prevention of their inroads. In accordance with this decision, "Rat-Week" has been since observed every year in Nottingham. Actual details of the observance have varied from time to time, but the general principles of requisite action remain unchanged, and especially that of the combination or co-operation of interested parties in striving by all reasonably available means to destroy and exclude the vermin. This combination or co-operation is absolutely essential for effective action. The rat population below ground is at least as numerous as the human above (Boelter); and it is only by the simultaneous slaughter of large numbers on closely adjacent areas or premises, that any appreciable impression can be made upon it, and any useful check be given to its reproduction.

I give below a copy of the short report which I issued in 1919, after the first official observance of Rat-Week in Nottingham, which sufficiently indicates the special character of local conditions (affecting the rat problem), and the general lines upon which we have acted, and which may also be taken as fairly typical of the series of similar reports issued in subsequent years. I am pleased to say that, as a result of our continual efforts to awaken the members of the general community to a sense of their public and personal duty in the matter, considerable numbers—mostly the heads of business firms and the governing bodies of public institutions—have now taken up a continual crusade for themselves, without waiting

for our Rat-Week advertisements, notices or circulars, or other reminders of their obligations. Those who wish to learn all it is useful for them to know, without much trouble in doing so, about rats (" black " and " brown ") and mice, their species, their history (natural and other), their habits, their economic importance, and their capacity for disseminating disease (and not only the bubonic form of plague), are advised to obtain the excellent monograph on these subjects by Mr. M. A. C. Hinton, published by the British Museum (Natural History), Cromwell Road, London, S.W. 7.

CITY OF NOTTINGHAM.

RAT-WEEK.

October 19th to October 26th, 1919.

In accordance with the wish of the Board of Agriculture and Fisheries, a specially active crusade against rats was ordered by the Local Authority for the week ending October 26th, 1919. But, before describing the action taken under this order, I must say a few words about the special circumstances of Nottingham in relation to the rat nuisance. The physical character of the soil and subsoil upon which the older and higher parts of the City (of Nottingham) are built, Bunter sandstone, and the caves and passages with which this has been honeycombed from prehistoric times, have rendered its case in relation to the rat nuisance at once very peculiar and very difficult of treatment. The excavations in the neighbourhood of the Great Market Place and of the Lace Market are probably the most extensive, and it is here that the rats have given most trouble. These subterranean spaces not only afford free intercommunicating

runs and breeding grounds for the rats, but they also protect them against destruction by means of ferrets, mungooses, etc. Some of the railway works and tunnels of the city, and especially the joint G.N. and G.C.R. station and the long tunnels running north and south of it, have been infested with rats coming from these underground spaces, and until recently very little had been accomplished by the railway companies in the way of rat destruction.

Prior to the preparations made for the local observance of Rat-Week, the local authority in Nottingham had confined its operations to the issue of circulars, informing the public of the views and wishes of the Board of Agriculture and Fisheries in the matter, and recommending the employment of certain experienced rat-catchers known to the Health Department of the Corporation. But during the fortnight before the commencement of Rat-Week the following advertisement was inserted in the local papers :—

"CITY OF NOTTINGHAM.

"RAT-WEEK.

"OCTOBER 19 TO 26, 1919.

"During this week it is proposed that a special crusade against "rats shall be carried on. Any person or firm in the city suffering "from these pests should communicate with the Health Depart- "ment (at the Guildhall), the officers of which are in a position to "afford useful advice and assistance for combating them."

During this period also, a large quantity of rat poison consisting of Squill and Barium Carbonate mixed with Tallow (25% of each poison and 50% of tallow), made by

Messrs. Boots. Ltd., was presented to the Health Depart ment, by this firm, for gratuitous distribution. Upon receipt of this material, notice was sent at once to various dwelling-houses, shops, factories, warehouses, railway depôts, and other premises known to be infested with rats, to the effect that suitable quantities would be distributed free of charge to persons applying for it at the Central Health Department in the Guildhall. In the course of a few days more than one hundredweight of the poison was given away, principally in 1 lb. tins, at the Health Department, with instructions as to the best method of using it, which appears to be to spread it like lard upon hot toast, and then to cut the toast into small pieces and strew these in the rat runs. About 10 lbs. of the poison was distributed in this manner, throughout the two railway tunnels already mentioned, in the course of a few days; and within a few hours of its distribution on each occasion it had all disappeared. Suitable quantities were used in like manner in and about houses, warehouses, shops, and other premises known to be frequented by rats; and in every instance the whole or the greater part of the poison-material had been consumed or removed by the rats after the lapse of a few hours.

Meanwhile, I had made experiment of its effect upon two healthy adult rats confined in a clean wire cage, and found that both died within a few hours of eating a small quantity (less than one drachm of the mixture). Owing to the difficulty of ascertaining the exact time when the poison was eaten by the rats, I am not in a position to say exactly how long it took to kill them. From my own observation, however, and what I can learn from others who have made experiments with it in this manner, I am inclined to think it usually proves fatal within 12 hours after ingestion.

This poison material is no longer given away, but large quantities are being sold continually in the City of Nottingham and outside, by Messrs. Boots, Ltd., the firm that make it. As much as 20 lbs. at one time have been sold lately, they tell me, to a single firm.

Attempt was made in the first instance to estimate the number of rats destroyed, by the collection and enumeration of carcases on certain selected premises; but this method failed, because of the fact that the rats retired to their runs in the inaccessible underground caves and passages above described, and there died. As an alternative method of estimation, therefore, inquiry was made respecting the numbers of rats observed before and after the use of the poison, respectively; and in almost every instance it was said that since the use of the poison they had either disappeared altogether or appeared only in greatly diminished numbers.

Striking examples of this diminution were recorded at the Railway Goods Stations, and in the main tunnel, north and south of Victoria Station.

Both during Rat-Week, and before and since, many hundreds of rats were reported to have been caught and killed in various other ways than above described, by professional rat-catchers and others, in all parts of the city; but as no reward has been offered for carcases, or parts of carcases, it is not possible to form even an approximate estimate of the total numbers so destroyed.

This brief summary will probably be sufficient for the present purpose of the Board of Agriculture and Fisheries; which, I take it, is to ascertain the general scope of the operations, if any, undertaken by local authorities for dealing with the rat nuisance within their area during Rat-Week, and before and after it, but should

further details be required at a later date, these will be forthcoming.

For the immediate future at any rate, I am disposed to recommend that the poison material already so successfully employed be chiefly relied upon for the destruction of rats in this City.

I am also disposed to suggest that the district inspectors of nuisances (whose numbers are about to be increased so as to give them the supervision of single wards or pairs of contiguous wards) be appointed special rat-officers for their own districts. The intimate knowledge of, and freedom of access to, all premises within their areas possessed by these inspectors, seem to render this arrangement particularly desirable.

PHILIP BOOBBYER,
Medical Officer of Health
for the City of Nottingham.

HEALTH DEPARTMENT,
GUILDHALL,
NOTTINGHAM.
20*th November*, 1919.

Private Slaughter-Houses in use in the City, 1916-1928

I give here the numbers of private slaughter-houses in use in the City, at the close of each year from 1916 to 1928 inclusive; and it will be seen that their total has fallen from 103 to 70 during this period.

1916	..	..	103
1917	..	..	103
1918	..	..	95
1919	..	..	92
1920	..	..	90
1921	..	..	90
1922	..	..	86
1923	..	..	83
1924	..	..	82
1925	..	..	78
1926	..	..	75
1927	..	..	72
1928	..	..	70

Of the 70 now remaining, 22 are registered, and 48 licensed (with annual permits). The reduction in number of practically 32% in 13 years, has come about, partly by the compulsory or voluntary Closure of unfit houses, partly by the growing practice, among owners or principal tenants, of sub-letting the use of slaughter-houses, and partly by the still more actively growing practice, especially among the smaller retail butchers, of buying meat from wholesale dealers.

The Corporation of Nottingham have now at length decided to build an abattoir, and it is gratifying to learn that the majority of Nottingham butchers are in favour of the scheme.

Food-stuffs Condemned.—The following are some points of special interest which the figures of the accompanying table connote :—

(*a*) During the war period there was necessarily a shortage of meat supplies, and consequently a reduction

in the average annual amount of meat condemned as unfit for human consumption; but, on the cessation of hostilities, the sudden influx of chilled meat from abroad, and the release from embargo of fresh home supplies, rendered much of that which had been kept for some time in cold-storage unsaleable. This explains the destruction of a relatively large amount in 1915. After this, however, until the meat supplies from all sources became normal again between 1923 and 1924, there was a comparatively small amount of condemnation. Subsequently the conditions were almost continuously normal.

(*b*) The importation of game, poultry, and rabbits from eastern Europe, and of rabbits from Australia, after a post-war period of fluctuation, has definitely declined of late; and the use of high game as food-material appears to be going out of fashion. Very small quantities only of the last are now destroyed by us.

(*c*) The almost sudden release of the fishing fleets in 1919, gave rise to a glut of wet fish which lasted until 1922, when a reasonable adjustment of supply and demand was once more established.

(*d*) The amount of vegetables destroyed as unfit for food is dependent on climatic conditions and means of transport. Exceptionally large quantities of potatoes and tomatoes, for example, were spoilt by delay in delivery during the summers of 1924 and 1926.

(*e*) Large consignments of more than questionable tinned or canned foods were put upon the home market immediately after the war; hence the very considerable amounts annually condemned at this time (1919-1921). With the passing of this period of retrogression, however, there is nothing but improvement to record in the quality of such food-material sold; and I am pleased to be able to report that the processes now in use for its preparation, are far superior to those which obtained only a few years ago.

Amounts (in 14 lb. stones) of Foodstuffs Condemned from 1916 to 1928 (inclusive).

	1916.	1917.	1918.	1919.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.
	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones	Stones
Butcher's Meat ..	6,927	12,142	11,946	15,230	12,581	12,328	15,092	18,535	21,907	19,995	23,376	23,253	22,936
Game and Poultry ..	394	188	312	673	729	1,014	179	158	164	165	179	21	19
Wet Fish ..	2,411	2,522	3,968	5,921	9,237	6,589	5,291	2,903	3,273	1,994	2,257	2,736	1,793
Shell Fish ..	2,256	2,100	1,766	3,503	3,867	3,069	1,721	2,717	2,910	2,124	2,842	3,386	3,515
Dry Fish ..	200	427	1,166	1,024	1,799	1,740	681	1,012	1,124	766	858	395	404
Fruit .. .	472	1,007	69	1,470	760	242	147	380	818	1,683	829	439	596
Vegetables ..	2,368	3,034	4,942	4,046	4,247	3,574	3,932	6,408	10,108	4,479	10,346	6,679	3,205
Canned Foods ..	1,997	1,865	1,633	2,738	8,514	8,431	3,995	3,822	3,714	5,608	4,753	3,715	2,690
Miscellaneous ..	1,018	172	155	336	391	324	57	377	126	216	178	295	113
Totals ..	18,043	23,457	25,957	34,941	42,125	37,311	31,095	36,312	44,144	37,030	45,618	40,919	35,271

SALE OF FOOD & DRUGS ACTS

[Now, Jan. 1929, **FOOD & DRUGS (ADULTERATION) ACT**].

The tables which follow are sufficiently explicit in themselves and therefore call for no comment.

Milk (Special Designations) Order, 1923.
Licences granted to sell milk under special designations.

	1923	1924	1925	1926	1927	1928
CERTIFIED MILK.						
Dealers' licences ..	1	1	1	3	4	4
GRADE A. MILK.						
Dealers' licences ..	5	4	5	3	4	3
Pasteurisers' Licences ..	3	2	2	1	1	2

Public Health (Condensed Milk) Regulations, 1923.
Public Health (Dried Milk) Regulations, 1923.
Number of Samples taken each year.

	1924	1925	1926	1927	1928
Condensed Milk	9	17	16	11	15
Dried Milk	5	2	2	3	2

The Milk and Dairies (Amendment) Act, 1922, came into force in September 1922.

The Milk (Special Designations) Order, made under the above, came into force in 1922 and was amended in 1923. This Order is still in force.

Public Health (Condensed Milk) Regulations came into force October 1923.

Public Health (Dried Milk) Regulations came into force October 1923.

Licences for the sale of milk under special designations were first issued in 1923.

The Public Health (Preservatives, etc. in Food) Regulations, 1925, came into operation on the 1st January, 1927. They were twice amended (in December, 1926, and June, 1927), and as finally amended are still in operation.

Sale of Food and Drugs Acts, Etc.

Table of Annual Action and Results from 1916 to 1928 (inclusive).

	NUMBER OF SAMPLES.												
	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
FORMAL SAMPLES.													
Milk—													
Genuine	268	266	261	288	300	298	300	303	325	336	341	317	294
Adulterated	57	69	67	66	45	51	62	72	58	30	34	32	48
Total	325	335	328	354	345	349	362	375	383	366	375	349	342
Groceries and Drugs—													
Genuine	236	196	218	213	228	184	175	176	163	167	162	200	242
Adulterated	39	69	54	33	27	67	63	49	54	67	63	51*	16*
Total	275	265	272	246	255	251	238	225	217	234	225	251	258
INFORMAL SAMPLES.†													
Milk—													
Genuine	12	25	17	48	102	118	59	62	41	39	23	15	8
Adulterated	9	6	9	15	29	43	30	26	21	12	12	2	2
Total	21	31	26	63	131	161	89	88	62	51	35	17	10
Groceries and Drugs—													
Genuine	5	2	3	35	90	67	135	123	147	149	173	196	231
Adulterated	4	1	..	2	19	22	26	39	41	50	42	37*	9*
Total	9	3	3	37	109	89	161	162	188	199	215	233	240
GERBER TEST FOR MILK.†													
Genuine	..	..	..	..	21	113	298	350	353	360	384	473	478
Adulterated	..	..	..	..	..	15	64	65	65	86	92	89	144
Total	..	..	..	..	21	128	362	415	418	446	476	562	622
BACTERIOLOGICAL EXAMINATIONS.‡													
Certified Milk	..	..	..	..	..	..	2	5	3	4	4	20	33
Grade A. Milk	..	..	..	..	..	..	..	3	4	7	10	11	12
Pasteurized Milk	..	..	..	..	..	..	..	2	5	4	10	10	28
Other Milk Samples	..	..	..	..	25	31	15	19	5	9	11	10	..
FERTILIZERS AND FEEDING STUFFS.													
Satisfactory Samples ..	14	11	5	12	23	23	16	25	28	24	31	34	34
Unsatisfactory Samples ..	6	..	..	4	3	4	8	2	..	..	..	..	..
Total	20	11	5	16	26	27	24	27	28	24	31	34	34

* FORMAL AND INFORMAL SAMPLES OF GROCERIES AND DRUGS, 1927 and 1928.—The fall in the number of adulterated samples of Groceries (from 51 in 1927 to 16 in 1928, in the case of formal samples, and 37 in 1927 to 9 in 1928, in the case of informal samples,) was mainly due to butter and margarine and some other foods being freed from Boric Acid or other preservatives through the operation of the "Preservatives in Food Regulations." In previous years these foods often contained large amounts of preservatives, and were therefore dealt with as being adulterated.

† INFORMAL SAMPLES.—Much of the work of examining unofficial samples of milk either brought to the department by the public or purchased by the inspectors, is now carried out by means of the Gerber test applied by the latter. This test was used in 622 cases during 1928, as compared with 21 in 1920.

‡ BACTERIOLOGICAL EXAMINATIONS.—The increase in the number of samples of Certified Milk examined, from 2 in 1922 to 33 in 1928, is entirely due to the number of samples of such milk taken at the request of the Ministry of Health. The increase of samples of other graded milks is owing to the increased production and sale of these grades.

DAIRIES, COWSHEDS AND MILK-SHOPS.

Milk-sellers.

	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Registered during year	46	54	22	60	96	120	296	178	198	109	75	65	55
No. on Register at end of year ..	994	988	975	798	682	676	753	863	978	914	570*	548	529
Refused Registration	..	..	..	..	..	..	..	12‡	11	14	19	12	6
Removed from Register ..	..	..	..	..	..	..	..	..	4	12	8	..	18

‡ Milk and Dairies (Amendment) Act, 1922 gives power to refuse registration to milk-sellers or remove milk-sellers from register.
* The fall in this figure was caused by removing the sellers of bottled milk only, from the same register as the sellers of loose milk.

Cow-keepers.

	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
No. on Register at close of year ..	43	40	38	41	41	37	37	33	30	29	26	26	24
No. of Sheds	91	85	82	81	80	72	70	66	65	64	60	56	50
Total No. of Cows (average) ..	456	496	474	480	497	458	452	406	378	383	374	345	356

Notices, in respect of unsatisfactory conditions in Dairies, Cowsheds and Milk-shops, served and complied with.

	1920	1921	1922	1923	1924	1925	1926	1927	1928
Cowsheds, cleansed and limewashed	108	97	78	108	113	105	122	88	103
Cowsheds, repaired	7	16	3	6	6	8	6	6	8
Milk-shops, Dairies, etc., cleansed and repaired	19	26	27	44	75	87	83	101	93
Cesspools cleansed	2	4	..	..	..	..	..	..	..
Drains cleared	13	5	1	3	7	12	12	8	10
Offensive accumulations removed	11	16	11	11	14	12	20	25	20
Miscellaneous	28	52	28	14	26	42	46	63	50

Prosecutions.

	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
FOOD AND DRUGS.													
No. of Cases (Milk).. ..	28	36	28	22	22	6	10	19	16	2	11	9	8
No. of Cases (others) ..	2	4	5	1	15	4	8	5	2	1	6	2	2
MILK AND DAIRIES ORDERS, ETC. ..	..	1	..	..	..	..	..	..	12	..	1	4	5

The number of prosecutions under the Milk and Dairies Acts Orders, etc., in 1924, shews a higher figure (12) as compared with other years, and this is due to the proceedings taken against small milk-sellers under the Milk and Dairies (Amendment) Act, 1922, which came into force early in 1923. The Act gives power to a Local Authority to refuse registration to milk-sellers or to remove milk-sellers from the register under certain conditions.

Report on Administration of Factory and Workshop Act, 1901, in connection with Factories, Workshops and Workplaces, 1916-1928.

	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Inspection of Factories, Workshops, and Workplaces.—													
No. of inspections ..	2,787	1,710	1,445	1,398	2,769	2,446	2,470	2,707	2,876	1,975	1,891	2,087	2,150
No. of notices issued ..	63	77	18	95	175	174	133	692	624	623	607	603	550
Occupiers prosecuted ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Defects found in Factories, Workshops and Workplaces, and Remedied	567	627	196	783	937	712	663	692	1,002	747	661	678	602
Defects referred to H.M. Inspector	49	..	3	..	4	..	4	..	33	48	35	..	..
No. of Prosecutions	..	..	..	..	..	..	..	..	..	..	..	..	..

Shops Acts, 1912 to 1928.

	1916	1917	1918 & 1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
No. of visits and revisits	*	*	811	4,526	6,550	6,240	6,182	5,942	5,906	6,211	6,220	6713
No. of offences ..	*	*	18	8	20	88	20	29	34	24	44	23
No. of prosecutions	*	*	6	7	5	77	15	25	3	5	10	10
Amount of fines and costs	*	*	£6/10/0	£6/5/6	£5/10/9	†£46/14/0	£11/7/0	£11/10/6	‡7/6	£2/10/0	£9/0/0	£10/7/0

* During the War-period there was very little difficulty in securing compliance with the requirements of the Shops Acts; there was less competition than at ordinary times, and less inclination to resist restrictive regulations; the lighting restrictions, moreover, were helpful during the winter months.

† A large part (£39/10/0) of this sum was made up of fines for trading after closing-hour on Sundays.

‡ A new policy, of cautioning instead of prosecuting in first instance, inaugurated at this time.

ANNUAL TABULAR SUMMARIES OF CASES DEALT WITH AT CITY ISOLATION HOSPITALS AND SANATORIA FROM 1916 TO 1928 INCLUSIVE.

Total Number of Cases in Hospital and Sanatorium, 1916.

With particulars as to (*a*) Disease, (*b*) Sex of Patients, (*c*) Recoveries, (*d*) Deaths, and (*e*) Duration of Stay.

M = Male. F = Female.

Disease.	Remaining at end of 1915.			Admitted during 1916.			Total cases during 1916.	Total cases finally dealt with during 1916.	Total deaths during 1916.	Case mortality % of total cases 1916.	Days of average residence.		Remaining at end of 1916.
	No. of Patients.	Recovered	Died.	No. of Patients.	Recovered	Died.					Non-fatal.	Fatal.	
Scarlet Fever	M. 32	32	..	112	98	2	144	132	2	..	..	..	12
	F. 42	42	..	144	130	2	186	174	2	..	..	..	12
Totals ..	74	74	..	256	228	4	330	306	4	1.3	53.9	13	24
Enteric Fever	M. 2	2	..	26	24	1	28	27	1	..	..	..	1
	F. 2	2	..	15	11	2	17	15	2	..	..	..	2
Totals ..	4	4	..	41	35	3	45	42	3	7.1	53.4	14.3	3
Diphtheria ..	M. 2	2	..	53	37	6	55	45	6	..	..	..	10
	F. 4	4	..	65	50	3	69	57	3	..	..	..	12
Totals ..	6	6	..	118	87	9	124	102	9	8.8	38.7	5.3	22
Phthisis ..	M. 29	29	..	118	80	8	147	117	8	..	..	..	30
	F. 13	13	..	78	63	2	91	78	2	..	..	..	13
Totals ..	42	42	..	196	143	10	238	195	10	5.1	87.7	33.8	43
Other Cases ..	M. 39	18	7	536	454	22	575	501	29	..	..	..	74
	F. 9	1	4	59	43	7	68	55	11	..	..	..	13
Totals ..	48	19	11	595	497	29	643	556	40	7.2	32.9	76.5	87
Totals ..	174	145	11	1206	990	55	1380	1201	66	5.4	48.6	53.7	179

Total Number of Cases in Hospital and Sanatorium, 1917.

With particulars as to (*a*) Disease, (*b*) Sex of Patients, (*c*) Recoveries, (*d*) Deaths, and (*e*) Duration of Stay.
M = Male. F = Female.

Disease.	Remaining at end of 1916.			Admitted during 1917.			Total cases during 1917.	Total cases finally dealt with during 1917.	Total deaths during 1917.	Case mortality % of total cases 1917.	Days of average residence.		Remaining at end of 1917.
	No. of Patients.	Recovered	Died.	No. of Patients.	Recovered	Died.					Non-fatal.	Fatal.	
Scarlet Fever	M. 12	12	..	53	40	3	65	55	3	..	..	..	10
	F. 12	12	..	75	63	1	87	76	1	..	..	..	11
Totals ..	24	24	..	128	103	4	152	131	4	3·1	62·5	15	21
Enteric Fever	M. 1	1	..	4	3	..	5	4	..	..	..	..	1
	F. 2	2	..	7	7	..	9	9	..	..	..	..	..
Totals ..	3	3	..	11	10	..	14	13	..	..	62·2	..	1
Diphtheria ..	M. 10	9	1	87	70	6	97	86	7	..	..	..	11
	F. 12	12	..	102	88	5	114	105	5	..	..	..	9
Totals ..	22	21	1	189	158	11	211	191	12	6·3	44·9	10	20
Phthisis ..	M. 30	29	1	145	113	5	175	148	6	..	..	..	27
	F. 13	13	..	80	65	1	93	79	1	..	..	..	14
Totals ..	43	42	1	225	178	6	268	227	7	3·1	81·1	45	41
Other Cases ..	M. 74	55	6	963	858	25	1037	944	31	..	..	..	93
	F. 13	3	8	92	68	14	105	93	22	..	..	..	12
Totals ..	87	58	14	1055	926	39	1142	1037	53	5·1	33·0	121·9	105
Totals ..	179	148	16	1608	1375	60	1787	1599	76	4·8	44·1	91·5	188

Total Number of Cases in Hospital and Sanatorium, 1918.

With particulars as to (*a*) Disease, (*b*) Sex of Patients, (*c*) Recoveries, (*d*) Deaths, and (*e*) Duration of Stay.
M = Male. F = Female.

Disease.	Remaining at end of 1917.			Admitted during 1918.			Total cases during 1918.	Total cases finally dealt with during 1918.	Total deaths during 1918.	Case mortality % of total cases 1918.	Days of average residence.		Remaining at end of 1918.
	No. of Patients.	Recovered	Died.	No. of Patients.	Recovered	Died.					Non-fatal.	Fatal.	
Scarlet Fever	M. 10	10	..	66	63	1	76	74	1	..	..	..	2
	F. 11	11	..	70	65	2	81	78	2	..	..	..	3
Totals ..	21	21	..	136	128	3	157	152	3	1·9	51·8	8	5
Enteric Fever	M. 1	1	..	6	6	..	7	7	..	..	..	..	..
	F. ..	..	..	4	4	..	4	4	..	..	..	..	..
Totals ..	1	1	..	10	10	..	11	11	..	..	53·6	..	..
Diphtheria ..	M. 11	11	..	148	128	13	159	152	13	..	..	..	7
	F. 9	9	..	181	144	25	190	178	25	..	..	..	12
Totals ..	20	20	..	329	272	38	349	330	38	11·5	37·2	9·8	19
Phthisis ..	M. 27	27	..	239	193	20	266	239	20	..	..	..	27
	F. 14	14	..	85	68	3	99	86	3	..	..	..	13
Totals ..	41	41	..	324	261	23	365	325	23	7·1	78·8	46·4	40
Other Cases ..	M. 93	76	5	666	584	41	759	706	46	..	..	..	53
	F. 12	8	2	100	75	18	112	103	20	..	..	..	9
Totals ..	105	84	7	766	659	59	871	809	66	8·2	32·4	99·8	62
Totals ..	188	167	7	1565	1330	123	1753	1627	130	7·9	44·8	61·9	126

Total Number of Cases in Hospital and Sanatorium, 1919.

With particulars as to (*a*) Disease, (*b*) Sex of Patients, (*c*) Recoveries, (*d*) Deaths, and (*e*) Duration of Stay.

M = Male. F = Female.

Disease.	Remaining at end of 1918.			Admitted during 1919.			Total cases during 1919.	Total cases finally dealt with during 1919.	Total deaths during 1919.	Case mortality % of total cases 1919.	Days of average residence.		Remaining at end of 1919.
	No. of Patients.	Recovered	Died.	No. of Patients.	Recovered	Died.					Non-fatal.	Fatal.	
Scarlet Fever	M. 2	2	..	123	91	2	125	95	2	..	..	..	30
	F. 3	3	..	157	108	3	160	114	3	..	..	..	46
Totals ..	5	5	..	280	199	5	285	209	5	2.4	73.7	8.8	76
Enteric Fever	M. ..	..	..	5	4	1	5	5	1	..	..	..	..
	F. ..	..	..	3	2	..	3	2	..	..	..	..	1
Totals ..	..	..	..	8	6	1	8	7	1	14.3	45.5	28	1
Diphtheria ..	M. 7	7	..	133	102	21	140	130	21	..	..	..	10
	F. 12	12	..	183	146	26	195	134	26	..	..	..	11
Totals ..	19	19	..	316	248	47	335	314	47	14.9	37.0	7.2	21
Phthisis ..	M. 27	23	4	216	153	12	243	192	16	..	..	..	51
	F. 13	12	1	129	99	8	142	120	9	..	..	..	22
Totals ..	40	35	5	345	252	20	385	312	25	8.0	75.4	49.5	73
Other Cases ..	M. 53	37	8	192	162	17	245	224	25	..	..	..	21
	F. 9	5	2	72	42	20	81	69	22	..	..	..	12
Totals ..	62	42	10	264	204	37	326	293	47	16.0	50.8	158.9	33
Totals ..	126	101	15	1213	909	110	1339	1135	125	11.0	58.7	72.9	204

Total Number of Cases in Hospital and Sanatorium, 1920.

With particulars as to (*a*) Disease, (*b*) Sex of Patients, (*c*) Recoveries, (*d*) Deaths, and (*e*) Duration of Stay.

M = Male. F = Female.

Disease.	remaining at end of 1919.			Admitted during 1920.			Total cases during 1920.	Total cases finally dealt with during 1920.	Total deaths during 1920.	Case mortality % of total cases 1920.	Days of average residence.		Remaining at end of 1920.
	No. of Patients.	Recovered	Died.	No. of Patients.	Recovered	Died.					Non-fatal.	Fatal.	
Scarlet Fever	M. 30	30	..	152	135	5	182	169	4	..	..	..	12
	F. 46	46	..	229	196	4	275	247	5	..	..	..	29
Totals ..	76	76	..	381	331	9	457	416	9	2.2	46.9	13.8	41
Enteric Fever	M. ..	..	..	2	2	..	2	2	..	..	..	..	..
	F. 1	1	..	3	3	..	4	4	..	..	..	..	..
Totals ..	1	1	..	5	5	..	6	6	..	..	34.3	..	..
Diphtheria ..	M. 10	8	2	216	161	32	226	203	34	..	..	..	23
	F. 11	11	..	264	198	39	275	248	39	..	..	..	27
Totals ..	21	19	2	480	359	71	501	451	73	16.2	29.5	7.6	50
Phthisis ..	M. 51	51	..	164	121	12	215	184	12	..	..	..	31
	F. 22	20	2	114	91	2	136	115	4	..	..	..	21
Totals ..	73	71	2	278	212	14	351	299	16	5.3	91.1	53	52
Other Cases ..	M. 21	21	..	42	31	11	63	63	11	..	..	..	..
	F. 12	11	1	52	41	7	64	60	8	..	..	..	4
Totals ..	33	32	1	94	72	18	127	123	19	15.4	171.3	17.3	4
Totals	204	199	5	1238	979	112	1442	1295	117	9.0	62.8	15.9	147

Under the heading of "Other Cases" in the table above are cases of measles, cerebro-spinal fever, pneumonia, influenza, etc., and in addition, cases of phthisis transferred from the Infirmary, Bagthorpe; twenty-two of these (M. 15, F. 7), were left over from 1919, and one (female) was admitted in 1920. These cases returned to the Infirmary, Bagthorpe, on February 2nd, 1920. A considerable number had been in the Isolation Hospital for over seventeen hundred days, hence the high figure (171.3) under the heading of days of average residence (non-fatal).

Total Number of Cases in Hospital and Sanatorium, 1921.

With particulars as to (*a*) Disease, (*b*) Sex of Patients, (*c*) Recoveries, (*d*) Deaths, and (*e*) Duration of Stay.
M = Male. F = Female.

Disease.	Remaining at end of 1920.			Admitted during 1921.			Total cases during 1921.	Total cases finally dealt with during 1921.	Total deaths during 1921.	Case mortality % of total cases 1921.	Days of average residence.		Remaining at end of 1921.
	No. of Patients.	Recovered	Died.	No. of Patients.	Recovered	Died.					Non-fatal.	Fatal.	
Scarlet Fever	M. 12	12	..	79	62	..	91	74	..	..	..	..	17
	F. 29	29	..	107	90	1	136	120	1	..	..	..	16
Totals ..	41	41	..	186	152	1	227	194	1	0.5	45.6	1	33
Enteric Fever	M. ..	..	..	2	2	..	2	2	..	..	..	..	..
	F. ..	..	..	5	5	..	5	5	..	..	..	..	..
Totals ..	..	..	..	7	7	..	7	7	..	..	35	..	..
Diphtheria ..	M. 23	23	..	93	78	6	116	107	6	..	..	..	9
	F. 27	27	..	118	103	11	145	141	11	..	..	..	4
Totals ..	50	50	..	211	181	17	261	248	17	6.8	42.9	3.9	13
Small-pox ..	M. ..	..	..	37	24	..	37	24	..	..	..	..	13
	F. ..	..	..	65	60	..	65	60	..	..	..	..	5
Totals ..	..	..	..	102	84	..	102	84	..	..	23.2	..	18
Phthisis ..	M. 31	31	..	135	94	5	166	130	5	..	..	..	36
	F. 21	21	..	97	82	1	118	104	1	..	..	..	14
Totals ..	52	52	..	232	176	6	284	234	6	2.6	100.4	30.8	50
Other Cases ..	M. ..	..	..	38	35	2	38	37	2	..	..	..	1
	F. 4	3	1	44	39	5	48	48	6	..	..	..	..
Totals ..	4	3	1	82	74	7	86	85	8	9.4	22.0	25.0	1
Totals ..	147	146	1	820	674	31	967	852	32	3.8	55.0	14.1	115

Total Number of Cases in Hospital and Sanatorium, 1922.

With particulars as to (*a*) Disease, (*b*) Sex of Patients, (*c*) Recoveries, (*d*) Deaths, and (*e*) Duration of Stay.
M = Male. F = Female.

Disease.	Remaining at end of 1921.			Admitted during 1922.			Total cases. during 1922.	Total cases finally dealt with during 1922.	Total deaths during 1922.	Case mortality % of total cases 1922.	Days of average residence.		Remaining at end of 1922.
	No. of Patients	Recovered	Died.	No. of Patients.	Recovered	Died.					Non-fatal.	Fatal.	
Scarlet Fever	M. 17	17	..	176	135	2	193	154	2	..	..	..	39
	F. 16	16	..	178	136	1	194	153	1	..	..	..	41
Totals ..	33	33	..	354	271	3	387	307	3	1.0	44.6	14	80
Enteric Fever	M. ..	..	..	5	3	1	5	4	1	..	..	..	1
	F. ..	..	..	6	5	1	6	6	1	..	..	..	..
Totals ..	..	..	..	11	8	2	11	10	2	20	41.4	9.5	1
Diphtheria ..	M. 9	9	..	36	30	2	45	41	2	..	..	..	4
	F. 4	4	..	56	49	2	60	55	2	..	..	..	5
Totals ..	13	13	..	92	79	4	105	96	4	4.2	26.9	4	9
Small-pox ..	M. 13	13	..	53	43	..	66	56	..	..	..	..	10
	F. 5	5	..	42	38	..	47	43	..	..	..	..	4
Totals ..	18	18	..	95	81	..	113	99	..	..	23.7	..	14
Phthisis ..	M. 36	36	..	104	78	3	140	117	3	..	..	..	23
	F. 14	14	..	69	58	..	83	72	..	..	..	..	11
Totals ..	50	50	..	173	136	3	223	189	3	1.6	115.4	42.3	34
Other Cases ..	M. 1	1	..	47	31	4	48	36	4	..	..	..	12
	F. ..	..	..	48	39	1	48	40	1	..	..	..	8
Totals ..	1	1	..	95	70	5	96	76	5	6.6	20.2	13.8	20
Totals ..	115	115	..	820	645	17	935	777	17	2.2	54.8	16.1	158

Total Number of Cases in Hospital and Sanatorium, 1923.

With particulars as to (*a*) Disease, (*b*) Sex of Patients, (*c*) Recoveries, (*d*) Deaths, and (*e*) Duration of Stay.
M = Male. F = Female.

Disease.	Remaining at end of 1922.			Admitted during 1923.			Total cases during 1923.	Total cases finally dealt with during 1923.	Total deaths during 1923.	Case mortality % of total cases 1923.	Days of average residence.		Remaining at end of 1923.
	No. of Patients.	Recovered	Died.	No. of Patients.	Recovered	Died.					Non-fatal.	Fatal.	
Scarlet Fever	M. 39	38	1	215	184	5	254	228	6	..	..	..	26
	F. 41	41	..	292	247	4	333	292	4	..	..	..	41
Totals ..	80	79	1	507	431	9	587	520	10	1.9	44.6	22.4	67
Enteric Fever	M. 1	..	1	3	2	..	4	3	1	..	..	..	1
	F. ..	..	..	5	5	..	5	5	..	..	..	..	..
Totals ..	1	..	1	8	7	..	9	8	1	12.5	50.6	89	1
Diphtheria ..	M. 4	3	1	61	53	5	65	62	6	..	..	..	3
	F. 5	5	..	88	84	2	93	91	2	..	..	..	2
Totals ..	9	8	1	149	137	7	158	153	8	5.2	26.7	18.6	5
Small-pox ..	M. 10	10	..	71	70	..	81	80	..	..	..	..	1
	F. 4	4	..	65	63	..	69	67	..	..	..	..	2
Totals ..	14	14	..	136	133	..	150	147	..	..	19.6	..	3
Phthisis ..	M. 23	23	..	95	66	2	118	91	2	..	..	..	27
	F. 11	11	..	92	71	2	103	84	2	..	..	..	19
Totals ..	34	34	..	187	137	4	221	175	4	2.3	93.5	52.7	46
Other Cases ..	M. 12	9	3	47	43	..	59	55	3	..	..	..	4
	F. 8	8	..	50	43	4	58	55	4	..	..	..	3
Totals ..	20	17	3	97	86	4	117	110	7	6.4	25.9	17.8	7
Totals ..	158	152	6	1084	931	24	1242	1113	30	2.7	44.8	26.6	129

Total Number of Cases in Hospital and Sanatorium, 1924.

With particulars as to (*a*) Disease, (*b*) Sex of Patients, (*c*) Recoveries, (*d*) Deaths, and (*e*) Duration of Stay.
M = Male. F = Female.

Disease.	Remaining at end of 1923.			Admitted during 1924.			Total cases during 1924.	Total cases finally dealt with during 1924.	Total deaths during 1924.	Case mortality % of total cases 1924.	Days of average residence.		Remaining at end of 1924.
	No. of Patients.	Recovered	Died.	No. of Patients.	Recovered	Died.					Non-fatal.	Fatal.	
Scarlet Fever	M. 26	26	..	186	156	2	212	184	2	..	..	..	28
	F. 40	40	..	231	200	2	271	242	2	..	..	..	29
Totals ..	66	66	..	417	356	4	483	426	4	0.9	47.2	22.2	57
Enteric Fever	M. 1	1	..	6	4	..	7	5	..	..	..	..	2
	F. ..	..	..	8	7	..	8	7	..	..	..	..	1
Totals ..	1	1	..	14	11	..	15	12	..	..	33.5	..	3
Diphtheria ..	M. 3	3	..	79	62	5	82	70	5	..	..	..	12
	F. 2	2	..	100	78	6	102	86	6	..	..	..	16
Totals ..	5	5	..	179	140	11	184	156	11	7.1	26.7	3.8	28
Small-pox ..	M. 1	1	..	107	101	..	108	102	..	..	..	..	6
	F. 2	2	..	93	83	..	95	85	..	..	..	..	10
Totals ..	3	3	..	200	184	..	203	187	..	..	23.4	..	16
Phthisis ..	M. 27	26	1	94	72	1	121	100	2	..	..	..	21
	F. 19	19	..	72	56	3	91	78	3	..	..	..	13
Totals	46	45	1	166	128	4	212	178	5	2.8	110.8	101.6	34
Other Cases ..	M. 4	4	..	28	27	1	32	32	1	..	..	..	..
	F. 3	3	..	31	29	2	34	34	2	..	..	..	..
Totals ..	7	7	..	59	56	3	66	66	3	4.5	23.3	22	..
Totals ..	128	127	1	1035	875	22	1163	1025	23	2.2	49.1	30.7	138

Total Number of Cases in Hospital and Sanatorium, 1925.

With particulars as to (*a*) Disease, (*b*) Sex of Patients, (*c*) Recoveries, (*d*) Deaths, and (*e*) Duration of Stay.
M = Male. F = Female.

Disease.	Remaining at end of 1924.			Admitted during 1925.			Total cases during 1925.	Total cases finally dealt with during 1925.	Total deaths during 1925.	Case mortality % of total cases 1925.	Days of average residence.		Remaining at end of 1925.
	No. of Patients.	Recovered	Died.	No. of Patients.	Recovered	Died.					Non-fatal.	Fatal.	
Scarlet Fever	M. 28	28	..	221	186	6	249	220	6	..	..	..	29
	F. 29	28	1	245	209	3	274	241	4	..	..	..	33
Totals ..	57	56	1	466	395	9	523	461	10	2.2	45.8	24.8	62
Enteric Fever	M. 2	2	..	5	3	1	7	6	1	..	..	..	1
	F. 1	1	..	7	3	2	8	6	2	..	..	..	2
Totals ..	3	3	..	12	6	3	15	12	3	25	37.5	4.7	3
Diphtheria ..	M. 12	12	..	111	89	8	123	109	8	..	..	..	14
	F. 16	16	..	179	147	12	195	175	12	..	..	..	20
Totals ..	28	28	..	290	236	20	318	284	20	7	26.4	3.9	34
Small-pox ..	M. 6	6	..	263	248	..	269	254	..	..	..	..	15
	F. 10	10	..	163	156	..	173	166	..	..	..	..	7
Totals ..	16	16	..	426	404	..	442	420	..	..	22.5	..	22
Phthisis ..	M. 21	21	..	82	62	2	103	85	2	..	..	..	18
	F. 13	13	..	66	51	1	79	65	1	..	..	..	14
Totals ..	34	34	..	148	113	3	182	150	3	2	101.9	70.3	32
Other Cases ..	M. ..	..	..	44	36	7	44	43	7	..	..	..	1
	F. ..	..	..	56	46	7	56	53	7	..	..	..	3
Totals ..	..	..	..	100	82	14	100	96	14	14.6	25.5	10.4	4
Totals ..	138	137	1	1442	1236	49	1580	1423	50	3.5	39.9	13.9	157

Total Number of Cases in Hospital and Sanatorium, 1926.

With particulars as to (*a*) Disease, (*b*) Sex of Patients, (*c*) Recoveries, (*d*) Deaths, and (*e*) Duration of Stay.
M = Male. F = Female.

Disease.	Remaining at end of 1925.			Admitted during 1926.			Total cases during 1926.	Total cases finally dealt with during 1926.	Total deaths during 1926.	Case mortality % of total cases 1926.	Days of average residence.		Remaining at end of 1926.
	No. of Patients.	Recovered	Died.	No. of Patients.	Recovered	Died.					Non-fatal.	Fatal.	
Scarlet Fever	M. 29	28	1	125	100	2	154	131	3	..	..	..	23
	F. 33	33	..	169	137	3	202	173	3	..	..	..	29
Totals ..	62	61	1	294	237	5	356	304	6	2.0	54.6	14.7	52
Enteric Fever	M. 1	1	..	7	6	1	8	8	1	..	..	..	..
	F. 2	1	1	6	5	..	8	7	1	..	..	..	1
Totals ..	3	2	1	13	11	1	16	15	2	13.3	42.8	6.5	1
Diphtheria ..	M. 14	12	2	251	197	23	265	234	25	..	..	..	31
	F. 20	18	2	360	282	28	380	330	30	..	..	..	50
Totals ..	34	30	4	611	479	51	645	564	55	9.75	25.6	10.5	81
Small-pox ..	M. 15	15	..	91	88	..	106	103	..	..	..	..	3
	F. 7	7	..	90	89	..	97	96	..	..	..	..	1
Totals ..	22	22	..	181	177	..	203	199	..	..	23.6	..	4
Phthisis ..	M. 18	18	..	78	53	4	96	75	4	..	..	..	21
	F. 14	13	1	68	48	3	82	65	4	..	..	..	17
Totals ..	32	31	1	146	101	7	178	140	8	5.7	108.7	42.3	38
Other Cases ..	M. 1	1	..	27	24	3	28	28	3	..	..	..	..
	F. 3	3	..	36	34	1	39	38	1	..	..	..	1
Totals ..	4	4	..	63	58	4	67	66	4	6.1	24.7	18.7	1
Totals ..	157	150	7	1308	1063	68	1465	1288	75	5.8	41.8	14.5	177

Total Number of Cases in Hospital and Sanatorium, 1927.

With particulars as to (*a*) Disease, (*b*) Sex of Patients, (*c*) Recoveries, (*d*) Deaths, and (*e*) Duration of Stay.
M = Male. F = Female.

Disease.	Remaining at end of 1926.			Admitted during during 1927.			Total cases during 1927.	Total cases finally dealt with during 1927.	Total deaths during 1927.	Case mortality % of total cases 1927.	Days of average residence.		Remaining at end of 1927.
	No. of Patients.	Recovered	Died.	No. of Patients.	Recovered	Died.					Non-fatal.	Fatal.	
Scarlet Fever	M. 23	23	..	129	108	1	152	132	1	..	..	..	20
	F. 29	29	..	227	200	4	256	233	4	..	..	..	23
Totals ..	52	52	..	356	308	5	408	365	5	1.4	47.8	16.4	43
Enteric Fever	M. ..	..	..	2	2	..	2	2	..	..	..	..	..
	F. 1	1	..	2	1	..	3	2	..	..	..	..	1
Totals ..	1	1	..	4	3	..	5	4	..	..	72	..	1
Diphtheria ..	M. 31	30	1	393	328	23	424	382	24	..	..	..	42
	F. 50	49	1	487	402	34	537	486	35	..	..	..	51
Totals ..	81	79	2	880	730	57	961	868	59	6.8	28.9	6.8	93
Small-pox ..	M. 3	3	..	51	38	..	54	41	..	..	..	..	13
	F. 1	1	..	29	25	..	30	26	..	..	..	..	4
Totals ..	4	4	..	80	63	..	84	67	..	..	30.8	..	17
Phthisis ..	M. 21	20	1	84	64	3	105	88	4	..	..	..	17
	F. 17	16	1	62	44	..	79	61	1	..	..	..	18
Totals ..	38	36	2	146	108	3	184	149	5	3.3	125.8	76.2	35
Other Cases	M. ..	..	..	41	37	3	41	40	3	..	..	..	1
	F. 1	1	..	59	57	1	60	59	1	..	..	..	1
Totals ..	1	1	..	100	94	4	101	99	4	4	22.9	10.2	2
Totals ..	177	173	4	1566	1306	69	1743	1552	73	4.7	42.8	12.3	191

Total Number of Cases in Hospital and Sanatorium, 1928.

With particulars as to (*a*) Disease, (*b*) Sex of Patients, (*c*) Recoveries, (*d*) Deaths, and (*e*) Duration of Stay.
M = Male. F = Female.

Disease.	Remaining at end of 1927.			Admitted during 1928.			Total cases during 1928.	Total cases finally dealt with during 1928.	Total deaths during 1928.	Case mortality % of total cases 1928.	Days of average residence.		Remaining at end of 1928.
	No. of Patients.	Recovered	Died.	No. of Patients.	Recovered	Died.					Non-fatal.	Fatal.	
Scarlet Fever	M. 20	20	..	249	200	5	269	225	5	..	..	..	44
	F. 23	23	..	310	245	..	333	268	..	..	..	..	65
Totals ..	43	43	..	559	445	5	602	493	5	1.0	43.6	23.8	109
Enteric Fever	M. ..	..	..	21	19	1	21	20	1	..	..	..	1
	F. 1	1	..	15	14	1	16	16	1	..	..	..	..
Totals ..	1	1	..	36	33	2	37	36	2	5.5	37.4	8.5	1
Diphtheria ..	M. 42	42	..	379	328	21	421	391	21	..	..	..	30
	F. 51	50	1	493	430	21	544	502	22	..	..	..	42
Totals ..	93	92	1	872	758	42	965	893	43	4.8	24.2	10.2	72
Small-pox ..	M. 13	13	..	147	142	1	160	156	1	..	..	..	4
	F. 4	4	..	86	83	1	90	88	1	..	..	..	2
Totals ..	17	17	..	233	225	2	250	244	2	0.8	25.3	15	6
Phthisis ..	M. 17	16	1	88	67	1	105	85	2	..	..	..	20
	F. 18	18	..	49	40	..	67	58	..	..	..	..	9
Totals ..	35	34	1	137	107	1	172	143	2	1.4	109.5	105.5	29
Other Cases ..	M. 1	1	..	40	38	2	41	41	2	..	..	..	..
	F. 1	1	..	28	23	3	29	27	3	..	..	..	2
Totals ..	2	2	..	68	61	5	70	68	5	7.3	21.9	14.2	2
Totals ..	191	189	2	1905	1629	57	2096	1877	59	3.1	36.4	15.0	219

Receipts and Payments of the City Isolation Hospital and Sanatorium, and Small-pox Hospital, as given by the City Treasurer, 1916-17 to 1927-28.

Year.	Receipts. £	s.	d.	Payments. £	s.	d.
1916-17 ..	10,482	17	3	13,496	6	6
1917-18 ..	11,187	12	11	16,527	19	6
1918-19 ..	13,757	10	3	18,768	12	1
1919-20 ..	12,470	7	10	20,409	4	1
1920-21 ..	8,119	14	10	20,667	17	11
1921-22 .	8,289	9	9	19,876	5	1
1922-23 ..	7,834	17	2	13,475	4	11
1923-24 ..	6,259	2	3	13,365	11	9
1924-25 ..	9,182	9	6	14,107	4	7
1925-26 ..	12,892	17	4	16,370	2	7
1926-27 ..	8,124	8	10	15,817	0	8
1927-28 ..	6,601	4	9	15,409	2	4

Bulwell Hall Special Residential Open-air School and Sanatorium for Ex-Tuberculous Children.

Opened 14th June, 1920.

(Previous to June 1920, about 16 children were accommodated in a small home at Thurgarton).

This Children's Sanatorium has been a conspicuous success from the date of its opening until the present time. The total number of its patients has been 259, and only 10 of these have subsequently broken down in health—a very wonderful record. It belongs to the small and select number of institutions of which it can be truthfully said, that the hopes entertained of them by their founders have been in all respects fulfilled.

	1921	1922	1923	1924	1925	1926	1927	1928
Children in Institution on January 1st ..	47	47	47	49	49	50	44	42
admitted during year ..	21	29	46	31	26	23	43	16
discharged during the year ..	21	29	44	31	25	29	45	14
died in the Institution	..	..	..	..	..	..	..	..
in Institution on December 31st	47	47	49	49	50	44	42	44

HEALTH EDUCATION.

One cannot form a coherent picture of the various schemes of instruction undertaken by the Health Department, without considering the diverse functions which the Department is called upon to perform; functions, however, be it remembered, which though diverse in form are united in one common aim—the promotion of the public health.

In the early part of the period under review we were chiefly, though not exclusively, concerned with the creation of a public opinion in favour of (*a*) the abolition of the old pail-closet system and the introduction of improved methods of public scavenging, (*b*) the promotion of maternal and infant welfare, and (*c*) the treatment and prevention of tuberculosis and venereal diseases; and this has been most successfully accomplished, for everybody is now in favour of the existing schemes for effecting these desirable objects. Lectures were given at the University College, in the Albert, Exchange, and Mechanics Halls, at Church and Chapel Institutes and

school-rooms, at Public Libraries and elsewhere, with the object of instructing the public in the need for the work embodied in these schemes. With these lectures also, were interspersed others, describing and explaining the work and aims of the Health Department as a whole. With the view of focussing the attention of the general public, as distinguished from single audiences, upon health matters, exhibitions have been held on four occasions since 1916, during the celebration of Health or Baby Weeks (to be described later). The largest and most ambitious was that held, during a Baby Week, at the Albert Hall, in July of 1917. Sections which have attracted special attention, and excited much interest, at this and later exhibitions, are slum, and model working-class dwelling-rooms, including a lying-in room, placed side by side, with the actual furnishings in each case.

We were very materially assisted in organizing this exhibition by the generous kindness of Sir Jesse and Lady Boot (now Lord and Lady Trent), who placed the Albert Hall at our disposal for a week, free of charge. The special celebrations (to which I have referred above) of what are now known as Health and Baby, and other, Weeks—weeks, that is, in which special public attention is called to all that concerns the health of the individual and the community in the first case, and the baby and its mother in the second—, have been held, though with varying degrees of formality and organized arrangement, each year.

The following brief prospectus, and circular letter addressed to the clergy and ministers of religion (1927), speak for themselves, and indicate with clearness the general lines upon which such celebrations have been organized in Nottingham.

HEALTH WEEK, 1927.

Draft Programme for Celebration of Health Week in Nottingham, October 9th to 15th, 1927.

"We propose to utilise the headquarters of the movement, "at No. 1 Angel Row, as a depôt for health literature, posters, "and exhibits, and as an Information Bureau, at which visitors "and inquirers may obtain information upon any of the subjects "coming within the purview of the Health Department.

"The walls of one section will be covered with posters, "diagrams, tables, and models, dealing with infectious diseases "and infections of various kinds, and the means of their "avoidance, their cure, and their prevention, and with such "exhibits as casts of deformed limbs before and after orthopædic "treatment. This last section of our small exhibition will "show some very striking examples of surgical skill, and well "repay a careful study. We shall invite our visitors to give "special attention to the contrast between the conditions, "respectively, before and after operation. No more striking "object lesson of the value of remedial treatment can be con- "ceived than is afforded by these exhibits.

"The rooms of slum, and model working-class houses, "appropriately furnished, will be shown side by side.

"A part of the walls will show posters, diagrams, and "drawings furnished by the Water, Gas, and Electricity Depart- "ments. Leaflet literature will also be provided by each of "these public departments.

"The Water Department will show, *inter alia*, how water "is collected, stored, and distributed, and how it is protected "against pollution at every stage.

"The Gas Department will furnish similar literature; and "it has also, I am pleased to say, undertaken to make a special "display during 'Health Week' of appliances utilized in lighting, "heating, and cooking by means of gas, and to give demonstra- "tions of cooking as carried out at the Cookery Centres of "the Public Elementary Schools.

" The Electricity Department have promised to keep step " as far as possible with the Gas Department, except that they " cannot furnish an exhibition of school cookery, as electricity " has not hitherto been utilized for cooking purposes in the " schools.

" The Education Department have arranged :

" (1) for special talks on ' health ' to children in all the schools ;

" (2) for competitive essays on ' health ' subjects in both junior and senior schools ;

" (3) for exhibition cookery by girls at the domestic science centres ;

" (4) for the distribution of literature and the display of posters.

" The National Health Insurance Committee have promised " their hearty co-operation with us in promoting the success of " our Health Week celebration, and will furnish both funds and " copious literature. They have ideas of their owu concerning " the development of certain details of the celebration, and, as " they set store by these ideas, it will be well I think to let them " have their head, to some extent at least, in carrying them out. " They specially wish to arrange for lectures on Health and " Maternity subjects, and, seeing that the subjects they favour " are those we also approve, and that they will pay the lecturers, " we cannot do better than leave this part of the programme to " them.

" The Chairman and I are writing to all the clergy and " ministers of religion in the neighbourhood asking for their co- " operation and support, and have good hopes of securing in this " manner an excellent advertisement from the pulpits of the City " and district."

13/9/1927.

CIRCULAR LETTER TO CLERGY.

HEALTH DEPARTMENT,
GUILDHALL,
October 5th, 1927.

DEAR SIR,

May we call your attention to the fact that from Sunday the 16th inst., to Saturday the 22nd inst., Health Week will be celebrated in Nottingham. During this particular Week, the people of the City are asked to give special attention to matters relating to the promotion and maintenance of health, and especially personal health, and are encouraged thereto by lectures and literature. There will be daily lectures, by medical men and women, and others, at each of the 10 Maternity and Child Welfare Centres of the City; and the Insurance Committee, in conjunction with ourselves, have arranged for a course of public lectures on "How to keep well," in the Public Elementary Schools of the City, throughout the Week. If you can give our Health Week movement and these lectures your approval and support, and if you will kindly inform the Men's Clubs in your district of our programme for the Week, we shall be very grateful to you.

The Health Week Headquarters and Exhibition from Monday the 17th inst., will be at No. 1 Angel Row, at the corner of Mount Street, and the premises will be open to the public, free of charge, from 11 a.m. to 8 p.m. daily. Some reference by yourself to 'Health Week' and its objects, at Church or Sunday School, on Sunday the 16th inst. or earlier, will be highly appreciated.

Yours faithfully,

(Signed) E. H. LEE,
Chairman of Health Committee.

(Signed) PHILIP BOOBBYER,
Medical Officer of Health.

Celebrations of this character in other places are commonly held during the first week of October. In Nottingham they are deferred till the second or third week, in order to avoid Goose Fair—which is held in the first.

Since the establishment of the V.D. Clinic and the formation of a local branch of the British Social Hygiene Council (formerly the National Council for Combating Venereal Diseases), numerous lectures and "talks," on the Problem of Venereal Disease and Public Morality, have been given each year by members of the local branch—principally by Dr. F. H. Jacob and the Rev. Alexander Mann—to workpeople of both sexes, separately, at their places of employment and elsewhere, to parents, and others, and these lectures have usually been well attended.

We have had some experience of film propaganda in dealing with the subjects of public morals and venereal disease; but, generally speaking, I am not disposed to favour this method of teaching in connection, at any rate, with such subjects as these. The people whom the pictures attract are mostly the young and emotional of both sexes, who read into them rather immoral suggestion than preventive teaching.

In addition to the instruction of the general public upon the lines here set out, regular courses of lectures and demonstrations, for nurses, midwives, and health visitors, are given annually, by recognized authorities upon the various subjects of their respective curricula.

APPENDIX A.

REPORT TO THE NOTTINGHAM CITY COUNCIL ON THE TUBERCULOSIS PROBLEM. 1920.

One of the most important steps taken by Local Authorities in connection with the modern movement for the prevention and treatment of tuberculous diseases, was the provision of open-air sanatoria for tuberculous patients. This was begun in the summer of 1902, by the admission of selected cases of phthisis to certain adapted buildings within the enclosure of the Isolation Hospital at Brighton, upon the advice of Sir Arthur Newsholme, then Dr. Arthur Newsholme, Medical Officer of Health for the Borough. The example of Brighton in this regard was followed by other municipalities during the early ensuing years of the present century, and numerous cases were admitted from time to time during this period to vacant wards of the Nottingham City Isolation Hospital; whenever, in the scarcity, or relative scarcity, of epidemic sickness, such accommodation became available. Two of the present officers of the Central Health Department, now completely restored to health and vigour, were under treatment here with consumption for considerable periods at this time, one of them for more than 12 months altogether. Several persons employed in other departments of the Corporation, and many members of the general public from various parts of the City, were inmates of the sanatorium section of the Nottingham Isolation Hospital at this early period of its history.

At the outset, in order to avoid the possibility of over-lapping in the functions performed respectively by the City Sanatorium and the Sanatorium Section of the Union Infirmary, it was decided by the Health Committee to make a charge of 10/6 a week for patients admitted to the former; and this charge was continued until quite recently, until, indeed, by the Memorandum of the Local Government Board, dated 7th November, 1913, it was suggested that all uninsured phthisical patients in need of sanatorium treatment should be offered such treatment free of charge.

The first open-air verandahs, for phthisical and other patients requiring open-air treatment, at the City Isolation Hospital, Bagthorpe, were constructed about 1893, and the last entirely open-air block was completed in 1916. The present available space upon the verandahs of the hospital is sufficient for from 126 to 136 adult beds, without undue crowding. Up to the time when the National Health Insurance Act, 1911, came into operation (July 1912), the provision of sanatorium accommodation by Local Authorities was upon a voluntary basis; but afterwards it became official, and subject to the control of, and entitled to subsidy from, the Local Government Board; and in all cases where an arrangement was made for the admission of insured phthisical patients by the Local Authority, the latter received approximately 7d. a head of insured persons in their district, generally on condition of their setting apart a sufficient number of sanatorium beds to meet the needs of phthisical insured patients (in their district). So much for the insured patients.

As regards the uninsured, the Local Government Board and their successors the Ministry of Health, have called upon Local Authorities to make provision of the necessary sanatorium accommodation for such patients, and have themselves undertaken to defray, in the first place, 3/5ths of the capital cost of doing so, and, in the second, one-half of the subsequent cost of maintenance. When the Insurance Act first came into operation, by desire of the Local Government Board, I was appointed temporarily, in common with other Medical Officers of Health in large towns, as executive Tuberculosis Officer for the City, pending the selection and appointment of a permanent official to fill the post; and I held it from the middle of 1912 until February, 1913, when Dr. J. R. Edward was appointed to undertake its duties.

The scheme of the National Health Insurance Act, and of the Local Government Board Memoranda and Orders, made concurrently operative, embraced the following items :—

The appointment of a special Tuberculosis Officer ;

The provision of sanatorium and hospital beds for tuberculous patients, in the proportion of one bed to 5,000 persons for each ;

The establishment of Tuberculosis Dispensaries, in such numbers that each dispensary should serve a population of 150,000 to 200,000 persons ; and

The domiciliary visitation of tuberculous patients, resident at home, by medical practitioners.

The first two of these have already been referred to; it remains to speak of the last two, of the work done in connection with the scheme, of the results achieved thereby, of lessons learnt in the school of experience, and of our plans for the future.

The Tuberculosis Dispensary in North Church Street was opened in November, 1913. It consisted originally of an office, a waiting-room, a large dressing-room with separate compartments, and a consulting-room, all on the ground and first floors.

The use of these premises is no longer exclusively enjoyed by the Tuberculosis Department; but since 1917 has been shared by the V.D. Department, although the clinic sessions of the two have, as far as possible, been held at different hours, in order to avoid confusion among, and annoyance to, the patients in attendance at each. Many persons, including the principal medical officers of the Local Government Board, were of opinion at the outset that two departments so diverse in character as these could not use the same premises simultaneously without giving rise to serious discontent upon one side at least, and consequent loss of efficiency in one or both. These anticipations have not been realised in the slightest degree, but, owing to the great and rapid development of the V.D. Department, you have decided to remove the Tuberculosis Department as soon as suitable premises can be obtained for it elsewhere, leaving the former in exclusive possession of the entire dispensary-block in North Church Street. Notwithstanding diligent search, however, no such premises have as yet been forthcoming in any central situation, and the two departments continue to carry on together, somewhat crowded it is true, but without any loss of efficiency.

The staff of the Tuberculosis Dispensary consists of Dr. J. R. Edward (the Tuberculosis Officer), 3 trained nurses, and a typist. The following is a short account of the routine work of the department :—

Sessions are held on Tuesdays, Thursdays, and Fridays, with occasional additional sessions, for examination of cases of tuberculosis and suspected tuberculosis, and also for examination of contacts.

Adult patients are sent by doctors, often as many as 30 a week, both insured and uninsured.

Many discharged soldiers and sailors are sent by the local War-Pensions Committee, say, on an average, 20 a week.

Adult patients are also sent for examination from the General Hospital, Eye Hospital, V.D. Clinics, Charity Organization Society, and the numerous Welfare Centres now connected with many factories and works in the City—these in ever-varying numbers from week to week.

Children are sent by doctors, and by the General, the Women's and the Children's Hospitals, the School Medical Inspection Department, the Cripples' Guild, the N.S.P.C.C., the Infant Welfare Centres, the Infants' Hospital, and the Baby Clinics.

The homes of all patients are visited by nurses, often as many as 50 in a week. The Tuberculosis Officer visits on an average about 8 homes every week; but confines his attention for the most part to those which, in his opinion, specially require it.

A certain number of children are received from the county, with a view to admission to Thurgarton Home. Patients are also received by transfer from the County Dispensaries. After examination, cases are sent to the City Sanatorium, and the General, Children's, and Women's Hospitals, a certain number to the Union Infirmary, Bagthorpe, and a certain number also to Sanatoria and Convalescent Homes outside the City—principally in the South of England. A large number of children are referred to the Medical Inspection Department, with a recommendation that they be sent to open-air schools. As regards patients who are unwilling or unfit to enter any of the above institutions, arrangements are made with the District Nursing Association for their proper care at home.

All patients whose cases are notified by doctors are visited by the nurses, and asked to attend the Dispensary for examination and advice.

Educational leaflets are distributed in the homes of the patients and contacts.

Bedrooms are inspected and separate sleeping accommodation is suggested, and, where necessary, beds are loaned from the Dispensary for the purpose of providing it. Proper ventilation is advised, and means suggested for obtaining it.

Patients are instructed as to sputum disposal, and advice is given, where necessary, to uninfected members of the family, as to the best means of preventing the spread of infection.

Patients are encouraged to visit the Dispensary for help and advice in any difficulty.

Patients are visited on discharge from the Sanatorium, and every encouragement and help given to them to continue the treatment at home.

Disinfection of houses, clothing, bedding, and other material that has been exposed to tuberculous infection, is undertaken gratuitously by the Health Department; and after a death from tuberculosis upon any premises, a special offer of disinfection is invariably made, the knowledge of such death being obtained from the death-returns received by the Medical Officer of Health from the district registrars at the end of every week.

With regard to domiciliary treatment by medical practitioners, the following provision was made by the Local Government Board Order of the 6th July, 1912, and still stands, except that the close rapprochement between the practitioner and the Tuberculosis Officer in their care of the tuberculous patient, which the scheme had in contemplation, has not by any means always been realised:

> " As regards domiciliary treatment of cases of tuberculosis under the National Insurance Act, the Board and the Insurance Commissioners concur in thinking it desirable that this should be carried out as far as practicable by general practitioners acting in consultation with the tuberculosis officers of the area, or other approved adviser, due regard being had to the importance of the hygienic conditions of the home in all cases."

It was, I believe, originally intended that the domiciliary medical visitor should inform the Tuberculosis Officer from time to time of the progress of the case; this however, he very seldom does.

While speaking of the duties of medical practitioners, I am reminded that the regular notification of tuberculosis which is required of them by law, and was confidently expected of them by the Local Government Board when this disease was added to the list of notifiable disorders, has not been carried out with any regularity.

At this point it will be interesting to study the death-rates from tuberculous diseases during the period over which the present anti-tuberculosis campaign has extended. It is sufficient for our purpose here to take the mortality from phthisis, or lung consumption, and from all tuberculous diseases, respectively, for the City of Nottingham, and for the whole of England and Wales. These were as follows, from 1912 to 1919 for Nottingham, and from 1912 to 1918 (the latest available year) for England and Wales :—

NOTTINGHAM.

Death-rates per 1,000 of Population.

	1912-14	1915.	1916.	1917.	1918.	1919.
Phthisis	1·16	1·23	1·32	1·37	1·32	1·22
All other Tuber. Dis.	1·52	1·56	1·78	1·76	1·84	1·57

ENGLAND AND WALES.

Death-rates per 1,000 of Population.

	1912-14.	1915.	1916.	1917.	1918.	
Phthisis	1·29	1·18	1·26	1·40	1·54	
All other Tuber. Dis...	1·41	1·54	1·62	1·80	1·92	

These figures show that the general mortality from tuberculosis, both locally and in the country at large, increased during the years of the war as compared with the low rates of 1912-14; but, if we take the mortality in age-periods, we find that the increase, which affected both sexes, was confined in both to the 5-45 years age-period —there was no advance in the death-rate of young children, or of adults above the 45th year. The largest augmentation was among

women in the working period of life, and this is probably to be explained principally by the extensive industrial employment of women in place of men. The increase among children of school age was probably due in great measure to dietetic causes—lack of fats and other suitable food.

I am pleased to say that the latest figures, not yet available for publication, seem to indicate a resumption of the fall in mortality which was in progress before the war. But, even so, it is impossible to avoid the conclusion that we are not making the headway against tuberculosis which might reasonably have been expected as a result of concerted efforts directed by modern science, letting alone the optimistic anticipations indulged in by those who were responsible for the Sanatorium-Benefit Provisions of the National Insurance Act of 1911; and, consequently, it behoves us to review our entire scheme of prevention and treatment very carefully, in order to ascertain, if possible, what amendments or additions are requisite to render it more effective. It may be necessary, indeed, to revise some of our premisses. Dr. Batty Shaw, Physician to the University College and the Brompton Hospitals, and others with him whose opinions on the subject of tuberculosis are entitled to very respectful consideration on account of their large experience and high reputations, hold the belief that the tuberculous disease from which man suffers so terribly in adolescence and adult years is, for the most part, implanted in childhood, and awakened to activity by some accidental condition, mechanical or physiological, local or constitutional, later on. If this were a general truth, the protection of infancy and childhood would become our principal, if not our sole, objective. The incidence upon industrial life being due by this hypothesis to predisposition, and not infection at the workplace, we should practically ignore the risk from infected workmen and dried sputum, and devote our attention to the simple hygiene of the workplace. I venture to think, however, that while this new theory may be useful by inducing us to increase our efforts for the protection of childhood, it cannot be accepted *in toto*—we have too many facts against it. But, not being a clinical expert or pathologist, I shall leave this field of speculation, and return to that of accepted theories. Most of us are still united in thinking that one of the principal sources of infection for persons at all ages, is the advanced case nursed at home. So long as the last stage of fatal phthisis is spent at home, among the poor at any rate, so long must the prolongation of life among the subjects of advanced and progressive phthisis be a danger to the family and the community.

Attractive hospitals or homes for the accommodation of such cases should be provided, and systematic efforts made to render them popular, and to secure their general utilization. The provision of such institutions as these would relieve the Local Authority of the necessity, which at present they are frequently under, of using their sanatoria for patients in a hopeless condition. The fact, be it noted, that such patients are often sent to sanatoria, is sufficient evidence of some demand for hospital accommodation on their own part and that of their friends. There is, I think, no doubt that many of these patients will consent to go to hospital for a time, but it will certainly be difficult to induce them to remain when they realise that they are becoming steadily worse. Most of these in poor circumstances, indeed, insist upon spending the last stage of their illness, that stage which is necessarily most dangerous to others, at home. We have all seen examples of this homing tendency; many of us also have seen evidence of its disastrous consequences to others.

While these unfortunates excite our sympathy and pity, we cannot help feeling that it would be well, alike for them and their friends, to make it incumbent upon those who cannot be isolated in separate rooms at home to accept the accommodation of a public hospital.

We must, however, bear in mind at the outset, that, in the present state of the law, the sufferers from tuberculosis are immune from the restrictions affecting the subjects of all other dangerous infectious diseases. This is made clear by Art. XVI. of the Public Health (Tuberculosis) Regulations, 1912 (Dec. 19th), which reads as follows :—

> "Nothing in these regulations shall have effect so as to apply, or so as to authorize or require a Medical Officer of Health of a Local Authority, or any other person or authority, directly or indirectly, to put in force with respect to any person in relation to whom a notification in pursuance of these regulations has been transmitted to a Medical Officer of Health, any enactment which renders the person, or any one in charge of a person, or any other person, liable to a penalty, or subjects the person to any restriction, prohibition, or disability affecting himself, or his employment, occupation or means of livelihood, on the ground of his suffering from tuberculosis."

Whatever is done or attempted, therefore, in the way of restraint for this class of patients must take the form of an appeal to

reason or better feeling, and must be free from any suspicion of coercion. So much for the advanced and intractable cases.

The whole scheme for dealing with controllable cases is, or should be, separate and distinct from the last, except where the two must occasionally meet, in handing over cases the one to the other. In order that the treatment of controllable phthisis may be reasonably successful, it must be carried out upon certain recognised lines, and must be continuous. It is not sufficient to remove the patient from a faulty environment for a short time only. The man or the woman who has broken down once or twice in office, warehouse, or factory, will probably break down there again with a renewal of the conditions attending the earlier lapse or lapses. Many a life is shortened, much money is wasted, and a large amount of infection is spread, by our present haphazard unscientific method of sanatorium treatment. In the opinion of many thoughtful people with an extensive experience of tuberculosis, the time has come for making a systematic and well-organized effort to establish farm colonies, industrial training and trading, and other open-air settlements, for the after-treatment, employment and maintenance of persons with controllable phthisis who are willing to co-operate for their own good and that of others in similar circumstances. I am quite aware that several experiments have already been made in a more or less tentative manner with settlements of this character, and that these have not been uniformly successful. But the measure of success achieved has been sufficient to convince me of the practicability of a good, well-organized scheme of this nature.

The small sanatorium for children of both sexes at Thurgarton, which you have carried on for the past 4 years with conspicuous success, within the limits of its relatively small capacity, owes a large part of this success to the long periods for which the children are admitted, and the school instruction, the physical drill, and other outdoor occupations provided for them. The institution of a similar character, but larger capacity, about to be established in place of it at Bulwell Hall, will undoubtedly prove an even greater success; and if a hospital for so-called surgical tuberculosis is also established, as proposed, at the same spot, Nottingham will shortly be equipped with institutions for dealing with tuberculosis in children as completely as any town of its size in the United Kingdom. We may note in passing that the principle of continuous treatment has been recognised and applied in the case of children, and for the most part ignored in that of adults.

The National Insurance Act, 1911, contains many defects, and, together with the Local Government Board Regulations contemporaneous with it, is responsible for the bad start made with our still current schemes for combating tuberculosis. Framed almost entirely upon the instructions and regulations drawn up at the outset by the Local Government Board, these schemes contain no provision for dealing with advanced cases of consumption; and although the Medical Officer of Health was informed (Dec. 1912) that it was his duty, on receiving notification of a case of pulmonary tuberculosis, to take such steps as might appear to him to be necessary or desirable for preventing the spread of infection and for removing conditions favourable to infection, he was told in another circular issued at the same time—and based on the Regulations already mentioned—that he must not interfere in any sense or manner with the liberty of a consumptive patient. These schemes, furthermore, ignored the well known necessity for long continued treatment in order to re-establish health even in the most tractable cases.

Until steps are taken to remove the nidus of infection from the home, and until power is given to the local authority and their officers to insist upon such removal wherever it is necessary for the public safety, the infection will certainly be allowed to remain and to spread there; and, again, until indefinitely continuous open-air and other appropriate treatment and occupation is provided for the cases of consumption amenable to treatment, so long will they continue to lapse and relapse to their own hurt and that of the general community.

In this note, I have not referred to the subject of tuberculous meat and milk, as the danger from the first, under existing conditions is practically negligible, and our knowledge of the part played by bovine tubercle in the infection of man, especially with regard to its pathogenicity and the immunity it confers against other forms, is at present by no means complete. In any case, the action to be taken to protect the public against the sale of tuberculous milk is in a different category from the various new departures recommended in this note, and should therefore, I think, be dealt with in a report by itself.

PHILIP BOOBBYER,
Medical Officer of Health.

HEALTH DEPARTMENT,
GUILDHALL,
NOTTINGHAM.
22nd May, 1920

APPENDIX B.

REPORT ON PAIL-CLOSETS,

To the Chairman and Members of the Health Committee of the Nottingham Corporation.

Gentlemen,

The necessity for the conversion of pail-closets to w.c's on grounds of sanitation and decency is now generally recognised. It has been demonstrated by statistics, in this City and elsewhere, that the incidence of enteric fever and diarrhœa is far heavier upon houses and districts where these closets are in use than upon those furnished with w.c's.

The following table, published by myself in successive annual reports since my first appointment as Medical Officer of Health of Nottingham in 1889, sufficiently demonstrates this heavier incidence; and, as the table has now found its way into Public Health text-books, I need make no apology for its quotation in this report. The most striking and convincing feature of the table is the consistency with which it demonstrates this heavier incidence year after year, notwithstanding continual fluctuation of weather conditions, the introduction of improved methods of scavenging, and the steady growth of the number of w.c's provided for all classes of property in all parts of the City.

Incidence of Enteric Fever Cases upon Houses with Pail-closets, Midden-privies, and W.C's, from 1887 to 1910, and upon Waste-water-closets from 1905 to 1910.

1887 to 1898 (Average).								
Houses with	pail-closets	..	1	case of	enteric	fever	in 120	houses.
„	midden-privies	..	1	„	„	„	37	„
„	water-closets	..	1	„	„	„	558	„
1899.								
Houses with	pail-closets	.. .. ..	1	case in			70	houses.
„	midden-privies	.. .. ..	1	„			18	„
„	water-closets	.. .. ..	1	„			296	„
1900.								
Houses with	pail-closets	.. .. ..	1	case in			92	houses.
„	midden-privies	.. .. ..	1	„			20	„
„	water-closets	.. .. ..	1	„			407	„

1901.

Houses with	pail-closets	..	..	..	1 case in	84	houses.
„	midden-privies	..	..	..	1 „	12	„
„	water-closets	..	..	..	1 „	255	„

1902.

Houses with	pail-closet	..	..	..	1 case in	129	houses.
„	midden-privies	..	..	..	1 „	21	„
„	water-closets	..	..	..	1 „	294	„

1903.

Houses with	pail-closets	..	..	..	1 case in	267	houses.
„	midden-privies	..	..	..	1 „	50	„
„	water-closets	..	..	..	1 „	504	„

1904.

Houses with	pail-closets	..	..	..	1 case in	166	houses.
„	midden-privies	..	..	..	1 „	50	„
„	water-closets	..	..	..	1 „	407	„

1905.

37,048	houses with	pail-closets	..	204 cases	..	1 case in	181	houses.
—	„	midden-privies	..	4 „	..	1 „	100	„(cir.)
12,000	„	water-closets	..	21 „	..	1 „	571	„
6,785	„	waste-w.c.'s	..	26 „	..	1 „	261	„

1906.

36,886	houses with	pail-closets	..	231 cases	..	1 case in	160	houses.
—	„	midden-privies	..	3 „	..	1 „	100	„(cir.)
14,000	„	water-closets	..	21 „	..	1 „	667	„
6,785	„	waste-w.c.'s	..	30 „	..	1 „	226	„

1907.

36,697	houses with	pail-closets	..	177 cases	..	1 case in	207	houses.
—	„	midden-privies	..	11 „	..	1 „	18	„(cir.)
18,395	„	water-closets	..	25 „	..	1 „	736	„
6,785	„	waste-w.c.'s	..	18 „	..	1 „	377	„

1908.

36,351	houses with	pail-closets	..	197 cases	..	1 case in	185	houses.
—	„	midden-privies	..	3 „	..	1 „	33	„(cir.)
19,944	„	water-closets	..	25 „	..	1 „	798	„
6,785	„	waste-w.c.'s	..	12 „	..	1 „	565	„

1909.

36,318	houses with	pail-closets	..	123 cases	..	1 case in	295	houses.
—	„	midden-privies	..	2 „	..	1 „	30	„(cir.)
21,397	„	water-closets	..	18 „	..	1 „	1,189	„
6,785	„	waste w.c.'s	..	14 „	..	1 „	485	„

1910.

36,015	houses with	pail-closets	..	76 cases	..	1 case in	474	houses.
—	„	midden-privies	..	1 case	..	1 „	30	„(cir.)
23,058	„	water-closets	..	17 cases	..	1 „	1,356	„
6,785	„	waste-w.c.'s	..	9 „	..	1 „	754	„

In a report on the incidence of enteric fever in the large towns of Scotland, published this year by the L.G.B. for Scotland, facts similar to those recorded in the above table are brought to light.

The liability of pail-closets to foster and disseminate infection is explained by the following facts : (1) that the specific virus of enteric fever, epidemic diarrhœa, and other diseases, is capable of surviving for considerable periods in fæcal matter and soil ; and (2) that these closets, even with the most careful management, necessarily entail the storage of fæcal matter in the immediate vicinity of dwellings, and the pollution of the latter and their surroundings by such matter, to a very large extent in many cases and to some extent in all.

It has been shown that the specific organism of enteric fever (Eberth's bacillus) can exist in earth, fæces, dust, water, milk, and other media, outside the body, for considerable periods. It will retain its vitality and infective quality for periods varying from two months to something over a year, in such diverse materials as sterilised linen, woollen clothes, foul and sterilised waters, and soils of various composition. Given, therefore, the dissemination of the virus over the whole environment of human life, especially in poor neighbourhoods, as already described, there is no difficulty in understanding the persistent endemic propagation of the disease in a City like Nottingham.

It is, of course, in the lowest slum districts that the pail-closet is seen at its worst. In such districts its use is commonly shared by two or more households, and no one person can be held responsible for its decent maintenance. In such neighbourhoods, moreover, the closet door has usually no lock, so that the public have equal freedom of access with those for whom the closet is provided. The convenience is not always used normally, as evidenced by the fact that fæcal matter is very frequently found deposited on seat and floor, and even in the passage leading to it. In such circumstances it is of course impossible for anyone to use the closet in the normal manner without soiling person and clothing with fæcal matter.

From this picture, which is not in the smallest measure overdrawn, it will be realized that the pail-closet in its most degraded condition must be seriously inimical to health and decent living. Gangs of scavengers are now employed in this city to sweep out and wash these closets, and the dirtier courts, alleys, and yards of the

slums ; but, strive as they may, they cannot overtake the filth-spreading capacity of the lowest slum denizens, fostered by a degrading environment.

These arguments are sufficiently cogent; but, powerful as they are, they are probably less convincing to the lay mind than those based on the experience of large centres of population, which, having suffered severely from such diseases as those above mentioned so long as they retained their dry-closets, have become relatively free from them since their abolition. Such a centre is Leicester. In my annual report for 1908 I showed that, in the seventies of the last century, when Leicester was to a large extent a dry-closet town, it suffered to much-the-same extent as Nottingham from enteric fever, and twice as much from diarrhœa—its high diarrhœa mortality, in fact, like that of Preston, was proverbial. With the steady conversion of its dry-closets to w.c's at the close of the last century, its mortality from enteric fever and diarrhœa as steadily declined.

During the 10 years 1898-1907, the enteric fever death-rate of Leicester was only 3 per 100,000, as compared with 11 per 100,000 in Nottingham, and during 1908, 1909, and 1910, the Leicester rates averaged 3 per 100,000, as against 8 per 100,000 in Nottingham. The contrast in the respective numbers of cases notified in the two towns is even more striking than that of the deaths. There were 495 cases of enteric fever notified during these three years in Nottingham, and but 110 in Leicester, and the population of Leicester is only slightly less than that of Nottingham. During the seventies, as I have said, the diarrhœa mortality of Leicester was equal to twice that of Nottingham. So far as diarrhœa is concerned, the respective positions of the two towns is now exactly reversed. The total number of diarrhœa deaths in Nottingham during the tropical summer of 1911, was very nearly twice as great (337) as that recorded in Leicester (177).

I have mentioned only the case of Leicester in this connection, because it is very striking and the town is a near neighbour of our own, and because Dr. Newsholme the Chief Medical Officer of the Local Government Board, has taken the case of Leicester specially as his text in advocating the conversion of dry-closets ; but other examples could be given, notably that of Manchester, to which I shall refer again later on, where a similar result has attended the conversion of dry-closets to w.c's.

It will, of course, be understood that there are innumerable other agencies by which enteric fever, and even endemic enteric fever, is fostered and propagated in our large centres of population, and elsewhere ; and, of these, the human carrier cases, of which we have heard so much in recent years, are certainly by far the most difficult to deal with. My only contention here is, that the dry-closet is a powerful factor in this maintenance and propagation, and, as such, should be eliminated without delay. Certain provisions of the Insurance Act, moreover, remind us that its continuance may later on involve responsible Local Authorities in heavy financial liability.

The economic arguments in favour of the conversion of pail-closets to w.c's are almost as cogent as those above cited, based on sanitary considerations.

It must be plain to all that the cost of scavenging pail-closets, where each pail is removed with its contents to the depôt for emptying and cleansing, and where the contents have to be sent out of the City for use as manure, frequently at the expense of the Local Authority, is necessarily greater than that of scavenging dry-refuse bins, where the bins are simply emptied into the dust-cart and then returned to the house or yard, and where the collected refuse is carried straight to the destructors and burnt.

I shall now proceed to discuss this matter in some detail ; but, before doing so, I wish to acknowledge my indebtedness to the City Engineer for many of the figures I quote.

Each " pail-closet set," consisting of two men with a horse and dray, makes usually 8 journeys each night, and collects 8 cwt. of refuse per journey. The average weight of refuse collected by each set per night, works out at 3 tons, 4 cwt. The cost for 2 men and 1 horse is 14s. 4d. per night. The expense, therefore, of collecting each ton of pail-closet refuse is 4s. 6d. No allowance is here made for the wear and tear of plant, which is extremely heavy in this system, or for the cost of closet-pails, which are provided, cleansed, and maintained by the Corporation.

With reference to the collection of non-fæcal house-refuse (which is effected by day, instead of by night as in the last case), each set, consisting here of 2 men and 1 horse and cart, makes on an average 3 journeys per day, and collects about 25 cwt. per journey. The average weight of material collected by each set,

per day, is 3 tons 15 cwt. The cost of the two men and one horse is 13s. 5d. per day, and the cost per ton of material collected is 3s. 7d.

It is unnecessary at this stage to furnish a complete analysis of the total cost of collecting and disposing of the two classes of refuse here mentioned. Suffice it to say, that the total net cost of dealing with closet-refuse amounts to 9s. 6d. per ton, and that of dry-house-refuse to 4s. 8d. per ton.

The cost per closet-pail per annum works out at about 13s. 4d.

In making calculation of the relative weight and quality of refuse material to be collected under a dry-closet and water-carriage system respectively, Mr. Arthur Brown, the City Engineer, after considering the experience of Leicester and other towns, arrived at the conclusion (*inter alia*) that an allowance of 25% must be made for liquid and semi-liquid matter in the pail-closet contents, which would be absent from the house-refuse.

This liquid consists in the main of urine and fæces, and its removal will greatly simplify the problem of the final disposal of the refuse in destructors.

In Manchester, Salford, and Leicester, the proportional reduction in the amount of refuse to be collected, as a result of the change from dry-closet to w.c's, was found to vary from about 28 to 32 per cent., through the removal of the liquid excremental constituents from the refuse.

As it may possibly be urged that the economic arguments I have used are based very largely upon theoretic considerations, I shall now give the actual experience of the City of Manchester, which had, until almost the close of the last century, a larger number of pail-closets than any other town in the three kingdoms (there were 78,726 in 1894), but has now converted 4/5ths of them—only 16,366 now remaining.

At my recent visit to Manchester I obtained the following information concerning the financial aspect of the conversion :—

> In 1904 the estimated cost of the pail-system, expressed as per house furnished with such closets, was £1 per annum, and that of scavenging dry house refuse, 6s. 6d. per house per

annum. In 1908 the actual saving effected by the conversion of 34,000 pail-closets was found to work out at 12s. $9\frac{3}{4}$d. per house, per annum.

Other towns that have undertaken similar work have had a like experience.

The saving to be anticipated in Nottingham, however, as a result of the substitution of w.c's for pail-closets, will probably be somewhat less than that recorded in Manchester and some other towns where conversion has been effected, because in Nottingham one receptacle only is commonly used for fæcal and other refuse, whereas in most other pail-closet towns (including Manchester), two receptacles are ordinarily employed. Still, the saving will undoubtedly be considerable, for reasons already detailed above (in discussing the cost of refuse collection and disposal), apart from the question of common or separate receptacles for the two kinds of refuse.

It is frequently stated that the conversion of the pail-closets of Nottingham to w.c's would entail a serious tax upon our water supply, and a still more serious burden upon the sewage farm ; but a moment's consideration of the actual facts of the case will show that this fear is altogether devoid of solid foundation. In the first place, even if all the closets were converted at once, the additional water required per diem would amount to only 700,000 gallons, say, 5,000,000 per week, and neither this amount of water, nor the sewage carried by it, would make any difficulty at the sewage farm. The additional work thrown on the farm by such an amount of water and sewage, indeed, would hardly be noticed. But it must be remembered that the conversion of these dry-closets will, of necessity, be a matter of years, and therefore that any arguments based on the assumption of immediate total conversion are inadmissible.

There are now in Nottingham 36,015 pail-closets, mostly attached to dwelling-houses ; for I am pleased to say we have been able during the past few years to secure the substitution of w.c.'s for pail-closets in almost all the more important factories and workshops of the City.

Of the existing 36,015 pail-closets, 29,843 serve, each of them, one house only. The remaining 6,172 serve two or more houses, in the numbers and proportions set out in the following table :—

NOTTINGHAM, 1911.

Houses with less than one pail-closet each.

Houses.	Pail-closets.	Houses. North Dist.	Houses. South Dist.	Houses. East Dist.	Houses. West Dist.	Totals.
2	to 1 ..	1,880	1,128	3,500	2,261	8,769
3	,, 1 ..	30	251	653	107	1,041
4	,, 1 ..	..	40	56	..	96
3	,, 2 ..	180	83	156	96	515
5	,, 2 ..	15	71	185	55	326
7	,, 2 ..	..	..	28	..	28
4	,, 3 ..	52	12	74	58	196
5	,, 3 ..	185	105	190	108	588
5	,, 4 ..	25	..	20	34	79
6	,, 5 ..	..	..	6	..	6
7	,, 5 ..	42	..	42	..	84
8	,, 5 ..	..	..	64	..	64
7	,, 6 ..	..	7	14	..	21
8	,, 7 ..	..	8	..	..	8
9	,, 7 ..	..	..	9	..	9
10	,, 7 ..	..	..	30	..	30
11	,, 7 ..	..	..	11	..	11
9	,, 8 ..	..	..	18	..	18
11	,, 8 ..	11	..	11	..	22
10	,, 9 ..	..	..	..	10	10
12	,, 11 ..	..	..	12	..	12
13	,, 12 ..	..	..	13	..	13
	Totals ..	2,420	1,705	5,102	2,729	11,956

Total number of houses each of which is provided with a separate pail-closet = 29,843.

I would suggest that the conversion of pail-closets be undertaken in batches, in certain working-class neighbourhoods (*e.g.* parts of the St. Ann's Well Road, the Sneinton, and the Radford Districts) where the houses are in a sufficiently sound and sanitary condition to insure them immunity from interference by the Housing Committee, but where enteric fever is frequently prevalent. I would further suggest that the owners of property be offered a

subsidy towards the cost of conversion—say, from £2 to £2 10s. 0d. per closet, as at Manchester and elsewhere. The subsidy at Manchester, I was told, is now fixed at £2.

In conclusion, I desire to emphasize the fact that there are two main arguments in this report. The first is that the dry-closet system (pail or midden) is insanitary and indecent, and offensive to present-day public sentiment; the second is that its abolition would effect a considerable saving in the cost of public scavenging. These two arguments have been operative during the past few years in bringing about the conversion of the dry-system to one of water-carriage in almost all our large centres of population.

I have the honour to be Gentlemen,

Your obedient Servant,

PHILIP BOOBBYER,

Medical Officer of Health for Nottingham City.

HEALTH DEPARTMENT,
GUILDHALL,
NOTTINGHAM.

10*th January*, 1912.

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